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**JULY, 1913.**

# ENTOMOLOGICAL NEWS

Vol. XXIV.

No. 7.



Titian Ramsey Peale (1800-1885).

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# ENTOMOLOGICAL NEWS

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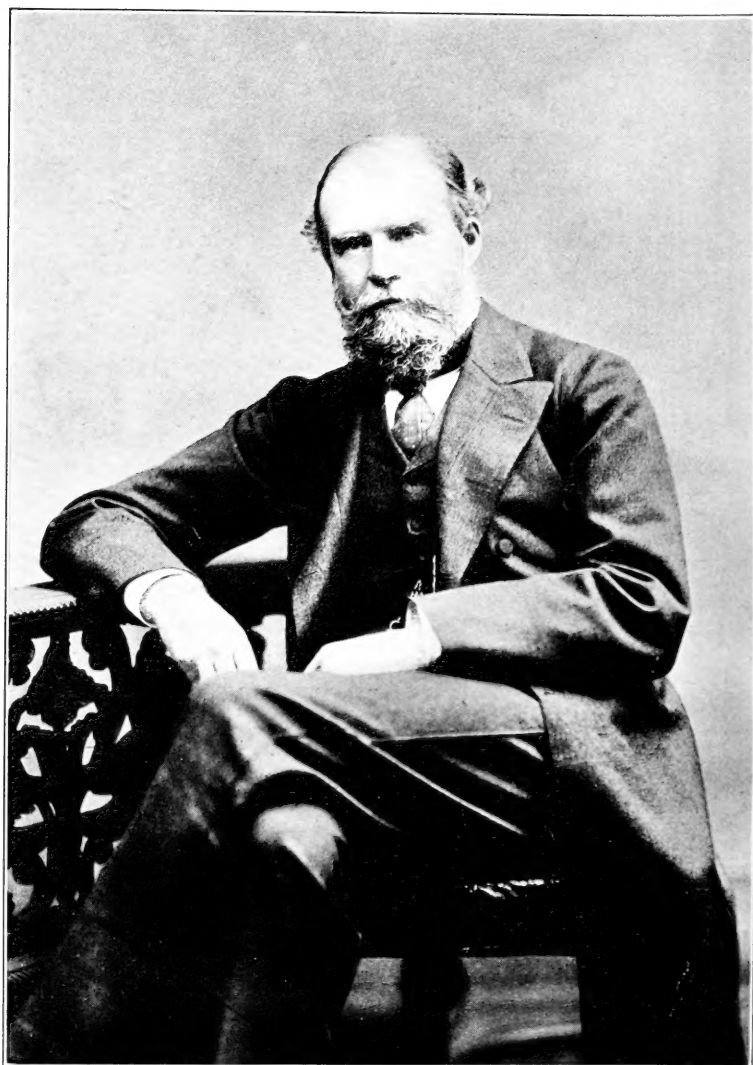
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SIR JOHN LUBBOCK, LORD AVEBURY.

# ENTOMOLOGICAL NEWS

AND

## PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XXIV.

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## Sir John Lubbock, Lord Avebury.

(Portrait, Plate IX.)

In the death of Lord Avebury, on May 28, there passed away the youngest, but not the last, of that group of famous English naturalists intimately associated with Darwin and the promulgation of his theories. For it was to Lubbock that Darwin wrote on November 15, 1859, after the appearance of the *Origin of Species*: "I care not for Reviews; but for the opinion of men like you and Hooker and Huxley and Lyell, etc." Lubbock too was present at the famous meeting of the British Association for the Advancement of Science in the University Museum, Oxford, June 30, 1860, at which the new views were under discussion, and spoke in their support. Huxley, months before, in a letter to Leuckart, January 30, 1859, had referred to him as "my friend, Mr. Lubbock (a very competent worker, with whose paper on *Daphnia* you are doubtless acquainted)." Still earlier, the entomological intercourse of Darwin and Lubbock is attested by a letter from the former to the latter, before 1857:

I do not know whether you care about beetles, but for the chance I send this in a bottle, which I never remember having seen. . . . I feel like an old war horse at the sound of the trumpet when I read about the capturing of rare beetles—is not this a magnanimous simile for a decayed entomologist?—It really almost makes me long to begin collecting again.

Son, grandson and greatgrandson of three baronets, all bankers, Lubbock was born in London, April 30, 1834. He was an Eton scholar, but not a University man, entering his father's banking house at the age of fourteen. Of this firm, Robarts, Lubbock & Co., established about 1750, he subsequently became head. He took an active part in introducing new clearing systems, improving the personnel of banking staffs and at various times was Secretary or President of the London Bankers, Associated Chambers of Commerce, Central Association of English Bankers and the London Chamber of Commerce.

In 1870 he entered the House of Commons, serving as member for Maidstone, Kent, until 1880, when, defeated in that borough, he was elected to represent the University of London until 1890. While in Parliament he secured the passage of many acts having in view the improvement of the working classes, the best known among these being that establishing the "bank holidays."

But it is with his career as an entomologist that we are concerned. In the list of his own papers on "the Annulosa and especially of Insects," in the preface to the 1895 edition of *On the Origin and Metamorphoses of Insects*, the first title is *On Labidocera*, 1853. The list exhibits the range of his entomological activity. Thus there are general papers, such as *On the Respiration of Insects*, 1857; *On the Ova and Pseud-ova of Insects*, 1858; *On the Distribution of Tracheae in Insects*, 1860; *On the Generative Organs and on the Formation of the Egg in Annulosa*, 1861; *Metamorphoses of Insects*, 1866, and *On the Origin of Insects*, 1871, in which last he agreed with Brauer in considering *Campodea* as the form most nearly approaching the ideal stem-form of the Insecta.

*On the Origin and Metamorphoses of Insects* (first edition



1873, reprinted 1874, 1883, 1890, 1895), quoted in the German text-books on anatomy and embryology of invertebrates, summed up those parts of his previous researches which were of a more general character, having reference to the nature of metamorphoses and to the origin of insects. It was published first in *Nature* and later, with some additions, in book form. It was one of the earliest applications in English of the theories of evolution and of natural selection to the main characteristics of insect life and development.

Lubbock tells us in his *Monograph of the Collembola and Thysanura* (London, Ray Society, 1873) that in 1863 he published his

first memoir on the Collembola, which was followed by a second in the year following, a third in 1867, and a fourth in 1869. In these memoirs I have recorded about sixty species and have given some account of their habits and anatomy. As regards the latter, I differed in many important points from Nicolet, to whom we were indebted for the first account of their internal organization. For instance, as regards the digestive organs, I found myself compelled to question the presence of Malpighian vessels. Again, with the exception of *Smythurus*, I found to my surprise that the Collembola had no tracheae, while Nicolet figured a complete system of them in *Podura*, and apparently considered that a similar arrangement prevailed throughout the group (p. 29): . . . . We must, indeed, in my opinion, separate them [Thysanura and Collembola] entirely from one another; and I have proposed for the group comprised in the old genus *Podura* the term COLLEMBOLA, as indicating the existence of a projection or mammilla enabling the creature to attach or glue itself to the body on which it stands (p. 36) . . . . So far as I am aware, no naturalist had given any account of the muscular system of the Collembola before the publication of my papers in the Linnean Transactions. With patience and spirits of wine, however, I have been able to make out the principal muscles pretty clearly (pp. 89, 90).

Two papers, *On the Development of Chloeon* (1863, 1865), made known the long larval life of twenty stages of this May-fly. The Lepidoptera are represented by *On the Arrangement of the Cutaneous Muscles of Pygaera bucephala*, 1858, and *On the Colors of Caterpillars*, 1878; the Hemiptera by *On Coccus Hesperidum*, 1858; the Diptera by *On the Development of Lonchoptera*, 1862.

*On Two Aquatic Hymenoptera*, 1863, announced the discovery of *Polynema natans* and *Prestwichia aquatica*, both of which swim completely submerged, the former by means of its wings, the latter by its legs. The first of a series of ten *Observations on Ants, Bees and Wasps* appeared in the *Journal of the Linnean Society* for 1873 and continued until 1882. Their results were gathered into the well-known volume, *Ants, Bees and Wasps* (1884), in the International Scientific Series. In the preface to this last he says:

The principal point in which my mode of experimenting has differed from that of previous observers has been that I have carefully marked and watched particular insects; and secondly, that I have had nests under observation for long periods. No one before had ever kept an ant's nest for more than a few months. I have one now in my room which has been under constant observation ever since 1874, *i. e.*, for more than seven years.

The International Scientific Series includes another volume by Lubbock, *On the Senses, Instincts and Intelligence of Animals with Special Reference to Insects* (1888).

His scientific interests did not stop here. Three volumes are concerned with *British Wild Flowers considered in relation to Insects*, *On Seedlings*, and *Flowers, Fruits and Leaves*. Ethnology and archaeology early attracted him and he produced *Prehistoric Times as illustrated by Ancient Remains and the Manners and Customs of Modern Savages*, 1865, and *The Origin of Civilisation and the Primitive Condition of Man*. When he was raised to the peerage in 1900, his title was taken from the temple of Avebury in Wiltshire, the greatest of all so-called Druidical monuments, which "appears to have been the finest megalithic ruin in Europe."

Better known of his books are *The Use of Life*, *The Beauties of Nature* and *The Pleasures of Life*, which have had a wide circulation, it being stated of the last-named as long ago as 1900 that it had gone through thirty-seven editions in Great Britain and twenty-five abroad, and, more recently, that 250,000 copies had been sold. Still other volumes are his *Scientific Lectures*, *Political and Educational Addresses* and *Fifty Years of Science* (1881).

Space is lacking to enumerate the numerous financial and

educational public services which he rendered and the scientific societies which bore his name on their rolls. "The wonder is that he was excellent in so many directions, surpassing those who had given their lives to but one of his many interests."

He was twice married and is survived by six sons and four daughters.

P. P. C.

(In response to a request for biographical data from the Academy of Natural Sciences of Philadelphia, of which he was a correspondent, Lord Avebury once sent a copy of *The South American Journal*, London, for February 24, 1900, containing a sketch of his life. From this sketch we have obtained many particulars.)

---

## On the *Criorhina intersistens* Walker and an Allied Species (Dipt.).

By CHARLES W. JOHNSON, Boston, Mass.

For a number of years there has been considerable confusion regarding the standing of *Xylota badia* and *Eristalis intersistens* Walker. In the collections under my charge and probably in the collections of others this confusion is due to the presence of two species, the females of which closely resemble each other.

That Walker's descriptions refer to one and the same species is very evident, notwithstanding the absence of the facial stripe in the description of *X. badia*.

Female: Body brassy, head covered with pale tawny down \* \* chest thickly clothed with long, pale tawny hairs; abdomen black, clothed with short hoary hairs, yellow on each side of base and thence in two narrow stripes beyond the middle legs pitchy; thighs pale yellow towards the base, knees and extremities of shanks yellow, feet tawny, hind feet pitchy, tawny at the base \* \* Length of the body 4 lines. New York. (List Dipt. Brit. Mus. pt. III, p. 559).

The description of *E. intersistens* (sex not given) is essentially as follows:

Body black, head clothed with whitish hairs and down, pale yellow with three black stripes in front \* \* chest and breast brassy green clothed with tawny hairs; abdomen elliptical \* \* thinly clothed with tawny hairs; sides irregularly tawny for more than half the length

from the base; legs tawny, hips black, a broad black band across each thigh and shank; feet pitchy, tawny at base. Length  $4\frac{1}{2}$ -5 lines. Trenton Falls, N. Y. (List Dipt. Brit. Mus. pt. III, p. 615).

The three black stripes evidently refer to the facial stripe and cheeks.

It seems therefore evident that *badia*, on page 559, should be used instead of *intersistens* on page 615. In regard to the genus, as I pointed out in *Psyche* (Vol. XVIII, p. 73, 1911) *Blera* Billberg 1820 (Type *Musca fallax* Linné), antedates *Criorhina* Meigen, 1822 (Type *Syrphus asilicus* Fallen). At the time, I advanced this name chiefly to offset *Penthesilia* Meigen, 1800 (no species mentioned). On the other hand, recognizing *Criorhina* to include only the large pilose species as is done by European authors and by Williston in his synopsis of the North American Syrphidae, then *Cynorhina* Will. becomes a synonym of *Blera*. In any event I cannot see how we can ignore *Blera* as the author's intention is very clear.

***Blera confusa* sp. n.**

*Male.* Face yellow covered with yellowish pollen, vertical triangle, antennal process, facial stripe and cheeks, shining black; occiput black, margins grayish pollinose, with long whitish hairs; proboscis and the first and second joints of the antennae black, the third joint and the arista brown. Thorax greenish black, shining, with long dull yellowish pile, humeri grayish pollinose. Abdomen black with a bluish reflection in certain lights; sides of the second and third segments with large yellow triangles, those on the second larger and less regular than those on the third; fourth segment with small yellow triangles at the anterior angles; pile yellowish except on the black areas of the second and third segments where it is black; venter with the second and third segments yellow. Halteres yellow. Legs black, tops of the femora, bases and tips of all the tibiae, and the first three joints of the anterior and middle tarsi yellow. Wings brownish hyaline, veins dark brown. Length 10 mm.

*Female.* Similar to the male, except that the yellow triangles on the third abdominal segment are much smaller and scarcely dorsal beyond the posterior margin of the one on the second segment, third with only a yellow spot at the anterior angle, pile dull yellow or gray mixed with black dorsally near the posterior margins of the segments, venter with only the second segment yellow. Front black, shining, slightly covered with a grayish pollen and whitish hairs. Length 11 mm.

Eleven specimens. Holotype and allotype, Capens, Moose-

head Lake, Maine, July 14 and 19, 1907 (C. W. Johnson), in the collection of the Boston Society of Natural History.

Paratypes, Princeton, Maine, July 12, 1909; Franconia, New Hampshire (Mrs. A. T. Slosson); White Mountains, near Glen House (Dr. Geo. Dimmock); Ricketts, North Mt., Pennsylvania, June 8, 1898 (C. W. J.).

Readily separated from *B. badia* by its less prominent antennal process, the black middle and posterior femora, and the large yellow triangular markings on the third abdominal segment, especially in the male. It is a species belonging to the Canadian zone, while *B. badia* practically belongs to the transition zone and is only occasionally taken in areas frequented by a few species found in both zones.

Thirteen specimens of *B. badia* show the following distribution: Northeast Harbor, Maine, July 19, 1909 (Dr. C. S. Minot); Franconia, New Hampshire (Mrs. Slosson); Manchester, Vermont, June 9; Auburndale, June 15, North Adams, June 14, and Mt. Everett, Massachusetts, June 28; Darien, Conn., June 10; Philadelphia, June 30; Edge Hill, June 5, and North Mt., Pennsylvania, June 8 (C. W. J.).

---

## The First Fossil Anthomyid Fly from Florissant (Dipt.).

By T. D. A. COCKERELL, Boulder, Colorado.

*Anthomyia* (sens. lat.) *atavella* n. sp.

Length nearly 6 mm., of wing 4.25; robust, bristly; the head, thorax and legs were apparently black; the abdomen as preserved is warm reddish, with the sutures pallid, it was probably brown; wings perfectly clear, veins dark. Top of head with large bristles directed forward, as in *Lispa uliginosa*; palpi about 480  $\mu$  long and 80 broad near end, feebly clavate, with bristles not longer than diameter of palpus (these palpi are essentially as in *Hyetodesia leucorum*); thorax elevated, scutellum prominent, dorsal thoracic macrochaetae very large, one near base of wing over 640  $\mu$  long, the long bristles and short hairs apparently practically as in *Hyetodesia*, but the precise arrangement cannot be made out; four very large macrochaetae can be seen in the longitudinal subdorsal row, before the scutellum; abdomen with thinly scattered bristles, the largest in a row near the hind margins of the segments, these being about 350  $\mu$  long, the arrangement very nearly as in the Muscid *Myiospila meditabunda*; legs bristly, the hind

femora with a row of large erect bristles on the upper side as in *Hyetodesia leucorum*; costa densely beset with very short black bristles; auxiliary vein reaching costa about 1600  $\mu$  from base of wing, running close to first vein for about 1215  $\mu$ , then rapidly leaving it, but the bend not very abrupt; first vein not especially thickened, reaching costa about 480  $\mu$  beyond end of auxiliary; second vein little arched, it and the third ending as in *Lasiops spiniger*; anterior cross-vein about 830 from end of discal cell, and about 1040 from its base; outer side of discal cell quite straight; fourth vein beyond the discal cell gently arched upwards, and then near the end with a short curve downwards.

Miocene shales of Florissant, Colorado, Station 13 (W. P. Cockerell). I cannot make out the squamae, but after close study and comparisons (especially with Cordyluridae) I am satisfied that this is a genuine Anthomyiid, the first to be described from Florissant. It is hardly possible to place it in a modern restricted genus, the characters used as generic being in large part invisible.

Scudder described two flies assigned to *Anthomyia* from the tertiary strata at Quesnel, British Columbia; these may be separated from *A. atavella* as follows:

Apical side of discal cell about as long as its side on first posterior (as in *Lasiops*, *Hyetodesia*, and most modern forms) *A. burgessi* Scudd.

Apical side of discal cell much shorter than its side on first posterior (a *Scatophaga*-like characters) . . . . . I

1. Wing 4.25 mm. long; at level of end of discal cell, first posterior twice as wide as submarginal cell (*Hyetodesia* approaches this)

*A. atavella* Ckll.

Wing 6.2 mm. long; at level of end of discal cell, first posterior not much wider than submarginal (as in *Homalomyia*)

*A. inanimata* Scudd.

In all these American fossils the upper apical corner of the discal cell is practically a right angle, as in *Lasiops* and *Homalomyia*; in the three species described as *Anthomyia* by Heer from Europe (Radoboj) this angle is very acute, as in *Hamomyia* and *Hydrophoria*. Is it possible that this difference distinguishes the American and Palaearctic Anthomyiidae of mid-tertiary times, one set of genera having evolved during the Eocene or earlier in America, the other in the Old World? To-day, of course, the two series are inextricably mixed in the northern faunae.

## On Three new Species of Myrmeleonidae from Japan and Formosa (Neur. Planip.).

By WARO NAKAHARA, Tokyo, Japan.

On studying my collection of Myrmeleonidae, I have discovered a number of specimens from Japan and Formosa which seem to represent three new species, and so I propose to describe them in the present paper.

### *Acanthaclisis kawaii* n. sp.

Fuscous with gray villosity. Face yellowish-white, palpi and base of antennae yellow; antennae short, stout and black; maxillary palpi yellow, slender and cylindrical; labial palpi nearly ochraceous, especially the last joint, and very long; vertex fuscous black with two elevations, separated by a middle impression, anteriorly with an ochraceous band.

Prothorax quadrangular with two transverse impressions, front margin about straight but slightly impressed in the middle, fuscous black with seven irregular grayish longitudinal lines above, under side whitish yellow; a small depression exists near the mesothorax; above clothed with black hairs, but underside with long, white ones. Meso- and metathorax also fuscous-black, with some reddish-yellow spots above, metathorax and the underside of both segments clothed with very long and silvery white hairs.

Abdomen deep grayish-black, hind margins of last four segments brown, the first one of them with a yellowish-brown spot on each posterior corner; underside yellow, basal half of segments mostly dark yellow, and a few basal segments clothed with long white hairs. In the female, the last segment short, split below, near the ventral margin with one long shining cylindrical appendage with black hairs; additional short segments with black hairs and spines, consist two plates.

Fore-leg black with very long white hairs; coxae and basal part of femora light ochraceous; femora mostly black; tibia black with some brownish spots and a long testaceous spur; claws testaceous. Middle-leg nearly as in the fore-leg, but the brownish spots of tibia are more yellowish and much larger. Hind-leg pale, with few hairs; coxae and femora light brown; the inner side of tibia black, but the outer side whitish.

Wings semi-vitreous, neuration yellow, strongly streaked and spotted with black. In the fore-wing the costal area is occupied by two regular rows of pentagonal cellules, those of the upper row slightly smaller than those of the lower; pterostigma milk-white, and not marked with any color.

Length of body, 40 mm.; fore-wing, 53 mm.; hind-wing, 47 mm.; antennae, 9 mm.

A single female specimen I owe to the kindness of my friend, Mr. S. Kawai. This specimen was captured by one of his friends at Banshoryo, Formosa, at the end of September last year.

This species is allied to Hagen's *A. japonica*, but it differs in many respects, especially in the color of the ventral side of the abdomen.

**Formicaleo esakii** n. sp.

Blackish. Face and palpi yellow, the last joint of labial palpi ochraceous. Antennae fuscous black, anterior margin of most of the joints narrowly yellowish, basal joint yellow with a narrow fuscous ring in the middle. Vertex black and swollen, with a few yellowish brown spots on the hind margin.

Prothorax longer than broad, little narrower in front, with a transverse impression anteriorly and broad concave space posteriorly; both anterior corners yellowish brown, and from this spot a narrow longitudinal line runs toward the hind margin; median brown line scarcely seen in front. Meso- and metathorax dull black; on the meso-thorax there is a yellow spot before the base of the fore-wing; lateral surfaces irregularly ochraceous.

Abdomen black; the third segment with two yellowish bands, one anterior and another along the posterior margin; the fourth and fifth segments with a yellowish band near the anterior margin; a large yellow spot exists on the sixth segment and also a small one near the posterior margin along both sides; anterior half of seventh segment yellow, posterior sides also yellow. A few of terminal segments are yellowish in ventral side. Genital parts are quite imperfect in my specimen; additional segments mostly yellow.

Fore-leg dark; outer side of coxae black, but inner side pale yellow; femora yellowish, outer side a little ochraceous and extremity black; tibia also yellowish with three broad black or ochraceous rings; spurs ochraceous, long and curved. Middle-leg yellowish; tibia with a longitudinal narrow blackish line and two broad, black rings. Hind-leg also yellowish; femora with many strong black spines, not hairs only; tibia with two broad black rings, one near the base and another in the extremity. Tarsal joints of all the legs yellowish except the last joint black in each leg; claws all testaceous and curved.

Wings elongated; hind-wing much shorter and more acute than fore-wing; vitreous with a fuscous spot near the termination of the cubital vein in the fore-wing. Neuration mostly black, interrupted with yellow or milky white; costal transversals mostly black, but pale near the base of the wings. Some small light fuscous spots, four of them in a row, exist near the apex of fore-wing as well as of hind-



wing very slightly; a very small, but deeply colored spot exists near the hind margin of hind wing. Pterostigma grayish white, marked with fuscous black.

Length of body, 33 mm.; fore-wing, 38 mm.; hind-wing, 36 mm.; antenna, 8 mm.

I received a male specimen from my friend, Mr. T. Esaki, who captured it on the night of August 24, 1911, when he was traveling through the northern part of the main island of Japan. He told me that the specimen had flown in at the window of the train by which he was traveling near the town of Taira, attracted by the light.

This species is allied to *Formicaleo contubernalis* McL., but, as stated above, its vertex is without spot, while that of *contubernalis* has numerous small orange-yellow spots; hind leg of the former with strong black spines, while that of the latter has long white hairs only; pterostigma of the former is distinctly marked with fuscous black, and the costal transverse veins mostly black, while those of the latter are indistinct and wholly pale. Moreover, the markings of the abdomen readily separate the two, because in the present species the second segment is without spot except that of the hind margin, and the third segment has one broad band in addition to that of the hind margin, while both the segments of *contubernalis* have a narrow interrupted dorsal orange-yellow line, and the sides of the third with the same colored spots.

With the above differences, I doubt not that, although allied, the two are distinct.

#### ***Myrmeleon ochraceopennis* n. sp.**

Face above the epistome blackish brown, shining; an obscure and irregular impressed spot in the middle between the antennae; mouth and a ring around eye yellowish, the latter often interrupted. Maxillary palpi thin, fulvous brown, the last joint cylindrical and notched on tip; labial palpi about two and a half times the length of the maxillary, fulvous brown, the last joint fusiform, and its conical tip notched. Antennae dull black, as long as the thorax; tip clavate and flattened, the very extremity little curved; a yellow ring exists around the two basal joints. Vertex blackish and transversely ovoid, elevated, and divided by a slight median impression; on top with irregular black spots; hind margin lighted with yellowish fuscous; in the male, the median impres-

sion is slighter than in the female; a yellowish fuscous line runs along the impression and unites with the similarly colored spot on the hind margin.

Prothorax dark ochraceous and short, little broader than long, little enlarged behind, and somewhat rounded before; two slight transverse impressions, one near the hind margin and another in the middle; on each side with some long and strong hairs. Meso- and metathorax dark ochraceous above, ventral side yellowish.

Abdomen slender, and shorter than wings, underside somewhat yellowish.

Legs slender, with black hairs; coxae and femora yellow, the latter thicker in the middle, slender portion more or less suffused with brown; tibiae and all tarsal joints black, shining; spurs as long as the basal tarsal joint, nearly straight and testaceous; claws testaceous.

Wings hyaline, suffused with light yellowish brown, inner margin strongly suffused with dark brown; a darkish narrow cloud exists between the radial and the 1st cubital veins; more deeply clouded below this; upper one is rather wide in the hind wing and much inclined to unite itself with the lower one; veins mostly pale, but the sub-costal, radial and cubital veins yellowish orange; pterostigma small, especially in the hind-wing, rounded and milk-white.

Length of body, ♂ 40 mm., ♀ 50 mm.; fore-wing, ♂ 50 mm., ♀ 57 mm.; hind-wing, ♂ 50 mm., ♀ 58 mm.; antennae, ♂ 12 mm., ♀ 10 mm.

A male and a female specimen captured by Mr. K. Asakura at Horisha, Formosa.

This splendid species is undoubtedly the largest of the genus *Myrmeleon* in Japan and also, of course, one of the largest of known species.

If the formation of new genera, *Baliga*, *Balaga* and *Ensa*, which Navas proposes on the basis of the difference of neuration, be justified, this species may also perhaps represent a new genus, because such a difference between *Baliga asakuræ* (Matsumura) and *Balaga micans* (McLachlan) is readily found among this and other species. But I am much inclined to think that the Navas classification may not be justified.

The species described from Japan by Okamoto in Wien. Entom. Zeit., xxix, 1910, and by the author in the present paper, taken together, number eighteen. In addition to these a species, *Ensa otiosus*, which I ventured to transfer to the

genus *Myrmeleon*, had been described by Navas as from Japan in Rev. Rus. Ent., xii, 1912, so that the number of species of Japanese Myrmeleonidae, including Formosan ones, now amounts to 19, as follows:

1. *Dendroleon jezoensis* Matsumura. Hab.:—Hokkaido, Honto (Main Island of Japan).
  2. *D. japonicus* M'Lachlan.—Hab.:—Honto.
  3. *Creagrís matsuoakae* Okamoto. Hab.:—Honto.
  4. *Acanthaclisis japonica* Hagen. Hab.:—Hokkaido, Honto.
  5. *A. kawaii* Nakahara. Hab.:—Formosa.
  6. *Epacanthaclisis moiwasana* Matsumura. Hab.:—Hokkaido, Honto.
  7. *Formicaleo nigricans* Okamoto. Hab.:—Honto.
  8. *F. contubernalis* M'Lachlan. Hab.:—Honto.
  9. *F. esakii* Nakahara. Hab.:—Honto.
  10. *F. acuminatus* Matsumura. Hab.:—Ogasawara, Riukiu.
  11. *F. formosanus* Okamoto. Hab.:—Formosa.
  12. *Myrmecalurus parvulus* Matsumura. Hab.:—Riukiu.
  13. *Glenuroides communis* Okamoto. Hab.:—Hokkaido, Honto, Kiushu.
  14. *G. okinawensis* Okamoto. Hab.:—Riukiu.
  15. *Myrmeleon asakurae* Matsumura. Hab.:—Formosa.
  16. *M. vchraceopenis* Nakahara. Hab.:—Formosa.
  17. *M. micans* M'Lachlan. Hab.:—Honto, Kiushu, Riukiu.
  18. *M. otiosus* Navas. Hab.:—"Japan."
  19. *M. formicarius* Linné. Hab.:—Hokkaido, Honto, Kiushu?, Riukiu; Europe, China, etc.
93. Komagome-Higashikatamachi, Hongoku, Tokyo, Japan.

## A new Lycaenid from Kamerun, West Africa (Lep.).

By W. J. HOLLAND, Director, Carnegie Museum,  
Pittsburgh, Pa.

In a lot of material recently received from Dr. H. L. Weber, of Efulen, Kamerun, I have been pleased to detect what I believe to be a hitherto unrecognized genus of the family Lycaenidae. It is represented by a pair, the female taken at Efulen, the male at Lolodorf, about forty miles distant from the former place. The markings of the under side of the wings strikingly resemble those of certain species of the South American genus *Euptychia*, belonging to the family Satyridae, and I have accordingly coined the name *Satyrimima*

for the new genus. So far as I have been able to ascertain, this name is not preoccupied.

*Satyrimima weberi* gen. et sp. nov.

The antennæ are scarcely half as long as the costa of the primaries, slender, with a moderately long club at the end, blackish above, lighter in color on the lower side. The eyes are naked. The palpi are relatively short, divergent, with the basal joint short, the second joint strongly curved upward, the third small, conical, acuminate, porrect. The first and second joints are densely clothed with appressed scales, the third less so. The fore-legs are armed at their extremities with minute recurved claws. The color of the legs is dark brown. A better idea of the neuration of the wings is conveyed by the accompanying cut (Fig. 1) than could be given by a lengthy verbal description.

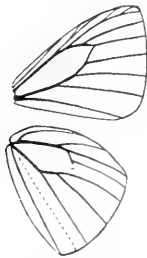


Fig. 1. Neuration of *S. weberi*, ♂.  
Natural size.

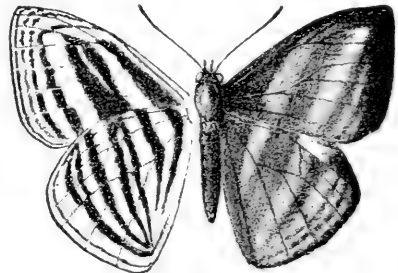


Fig. 2. *S. weberi* Holland, ♂.  
 $\frac{1}{2}$  larger than natural size.

♂. Expanse of wings 40 mm. The ground color of the upper side of the wings is light indigo-blue, through which the dark bands of the under side show through more or less distinctly. The primaries at the apex and on the outer margin are broadly black; the secondaries are narrowly margined with black, the margin being widest at the outer angle, and gradually diminishing in width toward the anal angle. Beyond the cell of the primaries toward the apex is a diffuse white spot. A similar white spot is located on the secondaries on the upper margin, a little beyond the middle. The thorax and abdomen are black above, whitish below. The wings on the under side are white, banded and spotted as shown in the accompanying cut (Fig. 2).

♀. Expanse 45 mm. The wings of the female are broader than those of the male. The white spot which appears on the primaries of the male marks the uppermost point of an acutely angulated white band, which from this point runs inward to the middle of the costa of the primaries, and downward to the middle of the inner margin of this wing and is continued upon the secondaries toward the anal angle of the latter, becoming gradually indistinct before reaching the

anal extremity of the wing. The ground-color of the wings in this sex is prevalently brownish, with a faint shimmer of blue toward the base and inner margins of both the primaries and secondaries. The dark bands on the outer margin of the wings on the upper side are broader and more diffuse than in the male. The maculation of the under side of the wings is like that in the male sex, but the markings are broader and more diffuse.

Types, male and female, in the collection of the Carnegie Museum.

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## How does the House-fly pass the Winter? (Dipt.).

By HENRY SKINNER.

I have never been convinced that in the locality of Philadelphia the house-fly lives through the winter in the imago condition. I have seen belated individuals in our homes and other buildings, but never concluded that any of them survived the winter and oviposited in the spring.

Howard says, "The adult flies undoubtedly remain dormant even in warmed dwellings, and it is altogether likely that some of them remain dormant throughout the winter months in sheltered but cold situations. Many adult insects pass the winter in this way, and observations have been made which indicate that this is the case with the house-fly, although as a matter of fact sufficient attention has not been paid in the observations on record of the exact specific identity of the flies in question." He quotes the observations of Jepson, made in Cambridge, England, who observed them for some time, finding them in the same positions and still living a month later. "His observations ceased at the end of January, but he saw no reason why they should not live on until spring and then begin to breed." Jepson's observations are inferential and inconclusive in so far as our question is concerned, as it is not shown that any specimens actually survived to breed in the spring.

Hewitt says, "With the approach of the cold weather season in October and November the flies seem to disappear and in all but the warmest places, such as kitchens, restaurants and stables, and even in these places their numbers are decreased.

The question is constantly asked: What becomes of the flies during the winter? Most of them die; the remainder hibernate."

Sanitarians have accepted the hibernation theory and recommend killing all the flies seen in the early spring, which they say are all hibernating females, about to oviposit. In this way they hope to cut off the egg supply in its incipiency.

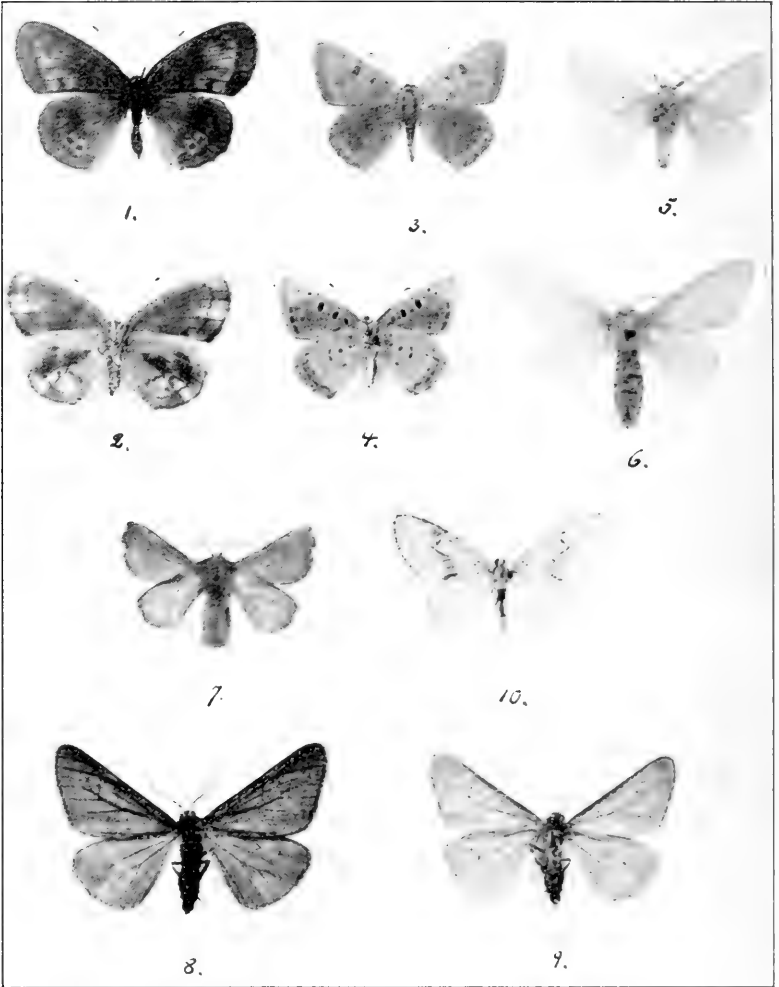
Observations made this past spring appear to show that the house-fly lives through the winter in the pupal stage. If this be correct, it seems reasonable to suppose that it is the only way in which the insect lives through the winter, on the theory that insects belonging to this order only pass through the winter in a given stage and never in two stages. The observations were made in the entomological rooms of the Academy of Natural Sciences of Philadelphia. No flies were observed in the rooms during the past winter, but as soon as the first warm days of early spring arrived the windows were opened and flies came in. Some of these were caught on March 13th of this year. They were all fresh specimens, even teneral in character except in color. The ptilinum was not completely retracted and it was evident that they had just emerged. The colors were bright and the wings perfect and not frayed in any way, and there was no sign of dust, dirt or decay on them. All in all it was quite evident that they had recently emerged. Both sexes were represented. Until disproved, I will answer the question at the head of this article as follows: House-flies pass the winter in the pupal stage and in no other way.

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#### Charts of Food Plants of Lepidoptera.

Miss Ximena McGlashan, from her Butterfly Farm at Truckee, California, has sent out several lists of food-plants of North American Butterflies and Moths, dated January, March, April and May, 1913, respectively. As summaries of information they are very useful, but it has been suggested that the size, especially of the larger "charts," is inconvenient and cumbersome and that ordinary book or pamphlet form would be more agreeable. Miss McGlashan asks the aid of all interested in the compilation of a complete list.





NEW LEPIDOPTERA FROM MASSACHUSETTS -REIFF.



## Some new forms of Lepidoptera from Massachusetts.

By WILLIAM REIFF, Forest Hills Sta., Boston, Mass.

(Plate X.)

The season of 1912 yielded a number of atypical lepidopterous forms, six of which are described in the present paper.

### *Phyciodes tharos* Dru. f. nov. *reaghi* (Figs. 1 and 2).

One ♀ derived from summer form *morpheus* Fab. Upper surface of fore wings much blackened in basal and median spaces, with light spots obsolete in marginal band. The latter very broad and black, this color extending over upon the costa for about one-half its length. Black markings near apex of primaries represented by a few black scales only. Black median line replaced by a broad, dull black, indefinite shading. The hind wings, on upper surface, have all markings in basal space obsolete. There is a black powdering in an indefinite, broad line at the base of these wings, parallel with the inner margin. Marginal band of secondaries uniform with primaries as regards width and intensity of shading. Exterior line of spots present. Parallel with this is a broad, black band extending into discal area and obscuring black spot normally present, in exterior line, near apex. At this point the broad band joins the marginal band.

On lower surface of primaries there are no black markings whatever, while all the colors are paler than in the normal form. Marginal band consists of four, large, irregular spots, alternately light yellow and reddish violet in color. This band is distinctly outlined by a narrow, uneven, reddish line. All other markings of marginal band are obsolete. The secondaries resemble somewhat, in pattern, the spring form *marcia* Edw. The ground tint is straw color, with three irregular, somewhat confluent, reddish violet spots of different sizes extending in series across discus from marginal band towards base. Two spots, in exterior band of upper surface, reappear faintly on lower surface, and are surrounded by a whitish tint. Corresponding with the inner margin of the black median band of the upper side of secondaries, is a wavy, reddish line on the under side. This line begins near the inner margin and connects the large, reddish spot near the discus with the spot nearest the outer margin. The character of the marginal band of secondaries is similar to that of the primaries. Beginning at the apex it is composed of straw colored, lavender, whitish, brownish lavender and light yellow spots of different sizes. The marginal band is outlined like that of the primaries.

This form finds its closest relative in f. *packardii* Saunders.

*Type*, 1 female, Franklin, Mass., Aug. 4, 1912; in coll. of Dr. Arthur L. Reagh, after whom I take pleasure in naming this aberrant form.

The above described specimen was taken by Dr. Reagh on the sandy shore of a pond, with full southern exposure, well protected from cold winds by woods and a hill. I, therefore, consider high temperature as the probable cause of this aberrant form, as in such a locality the intense summer heat could readily act on the chrysalis during its sensitive stage. Moreover, similar forms have already been artificially produced by heat in experiments on the related genus *Melitaea*.

**Heodes hypophlaeas** Boisd. f. nov. **caeca** (Figs. 3 and 4).

1 ♂ typical, 1 ♂ transitional.

Upper side. Exterior band of black spots on primaries completely wanting, except a faint, minute spot near the costa; in all other respects normal.

Underside. Spots in exterior band of primaries more or less obsolete and faint. Exterior band of black spots of secondaries completely wanting, also with the exception of a faint minute spot near the costa.

The typical specimen was taken by the author May 26, 1912, in a somewhat swampy meadow near the Blue Hills in Massachusetts. The transitional form was taken by Mr. Rudolf C. B. Bartsch, May 25, 1912, at West Roxbury, Mass., also in a somewhat swampy meadow.

*Type* in the author's collection. *Cotype* in Mr. Bartsch's collection.

I use for this form the same name, which has been proposed by Prof. Courvoisier, of Basel (Switzerland), the authority on Lycaenidae, for all the so-called "verarmten Formen" (*formae parvipunctae*) of this family, meaning forms with reduced or wanting maculation. In the palaeartic fauna we already know a great number of such forms and the recent description of such a form of the palaeartic *Chrysoph. alciphron gordius*\* is almost identical in its character with the above described form.

**Malacosoma distria** Hb. f. nov. **astriata** (Figs. 5 and 6).

Upper and lower surfaces of both sets of wings and also thorax and abdomen of a uniform pale, straw-yellow color with no trace of

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\* Busse, R.—*Chrysophanus alciphron* var. *gordius* f. *caeca* Courv.—*Entomol. Zeitschrift* XXVI, No. 26, 1912. Frankfurt a-M.

stripes or spots. Fringes of wings uniformly whitish. Sexes alike in coloration, but antennae of male blackish, of female yellowish.

One male from Lincoln, Mass., July 13, 1912; taken by the author from a window of the railroad station; 1 male from West Roxbury, Mass., July 15, 1912, taken by Mr. Walter F. Eastman at light; 1 female, July 2, 1912, reared by the author from one of a number of caterpillars collected at Concord, Mass.

*Type*—1 male, 1 female, in the author's collection; 1 male cotype in Mr. Eastman's collection.

These albinic forms are undoubtedly inhibition products, the process of coloration of the imago during its last pupal stage probably having been inhibited or arrested by outside influences. Accidentally I happened to spill some chloroform into the box containing several hundred *disstria* pupae as I was killing the first specimens which had emerged. Since the box was covered with netting and the chloroform was thus allowed to escape quickly, my misfortune did not affect the life of the pupae; I obtained, however, from these pupae after two days, and then for the next four days every day, one or two imagos which were more or less crippled and *all of which showed this pale albinic coloration*. The one female specimen above described was the only one which developed perfectly. The pupae which gave rise in the field to the two albinic males may have been situated at places little protected from cold or moisture.

***Malacosoma disstria* Hb. f. nov. *anita* (Fig. 7).**

Wings, antennae, thorax and abdomen uniformly chocolate brown. Two spots in fringes of primaries near apex white, all other parts chocolate brown. Exterior line of primaries faintly visible on both surfaces. Above secondaries are without marking; on lower surface discal line is narrow, diffused, and of a pale buff color.

One male, July 2, 1912, reared by the author from one of a number of caterpillars collected at Concord, Mass.

*Type* in the author's collection.

I take pleasure in naming this form after my wife, whose valuable help in rearing hundreds of caterpillars I appreciate very much.

I am not aware that intensifications so well marked in this case can be produced by causes which may have given rise to the pale forms previously described.

**Phigalia olivacearia** Morr. f. nov. **mephistaria** (Figs. 8 and 9).

Wings, thorax and abdomen blackish, smoky. Antennae normally colored. Fringes of inner margin of secondaries whitish, otherwise like the wing surface. Beneath the wings are a shade lighter than above. Only a few faint traces of normal marking of wings, but veins darker than ground color of wings.

One male from West Roxbury, Mass., April 7, 1912; taken by Mr. Walter F. Eastman in the day time from an electric light post.

*Type* in Mr. Eastman's collection.

Among the North American Geometridae melanistic forms are almost unknown. There are, however, large numbers of such forms in the palaeartic fauna, and from year to year new melanistic forms of Geometridae continue to be discovered. Fifty years ago only one melanistic Geometrid was known, the black *doubledayaria* of *Amphidasis betularius*, and this form at that time from England only. Now we find *doubledayaria* and many other melanistic forms of palaeartic Geometridae distributed over an increasingly larger area of central Europe. Considered from a phylogenetical standpoint, this yearly increase of melanistic forms is of the greatest interest, and exact observations in localities, where such forms appear and the publication of all details of capture is very important. Up to date we are entirely incapable of stating any rule as to the origin of melanistic forms in the field and its increasing occurrence, although a number of theories have been suggested as to its cause, but none of them as yet has been sufficiently supported. We only know that melanistic forms are certainly neither pathological nor degenerative products (as many albinic forms are), for melanistic forms are as a rule more strongly built and more resistant towards climatic influences, etc., than their non-melanistic ancestors.

We know two kinds of black coloration: nigrism, which originates when the black (dark) markings of a wing become more or less enlarged, and melanism, which signifies an in-

crease in the number of dark scales and the pattern remains unchanged. Often, however, the melanistic process is so complete that the markings are entirely obscured. I consider here only the second kind of black coloration, namely melanism affecting the Geometridae. Nigristic forms are products of heat or cold, and they also can be produced artificially by temperature experiments. However, the form described above represents the type of a special subdivision of melanistic forms. For the markings have disappeared almost entirely in this case, while in other cases of melanism they remain unchanged. The markings are here not obscured by dark scales as might be supposed, for the coloration is of a dark *smoky* color and not dense enough to hide markings, if such were present.

I propose to express this subdivision of melanistic forms (appearance of dark scales, together with disappearance of wing markings) by the collective term "*formae melanoticae simplices*."

***Nyctobia anguilineata* Gr. f. nov. *eastmani* (Fig. 10).**

Primaries above white. The following markings are present: faint brown basal line, brown median band not very strongly defined, but appearing distinct on account of the light wing coloration; a terminal line of brown dots.

Secondaries above white and hyaline, becoming slightly dusky towards the outer margin; no markings, except a very faint and minute black dot at the discus near costa.

Beneath, all wings white and hyaline with no markings, except re-appearance of the minute black dot of the secondaries and this is even fainter than above.

Head, thorax and abdomen grayish-white, antennae brown.

One male from West Roxbury, Mass., April 28, 1912; taken by Mr. Walter F. Eastman from a hemlock tree. I take pleasure in naming this form after the collector.

*Type* in Mr. Eastman's collection.

I regard this form as an albino of a form parallel to the f. *reiffii* Sw. of *Nyctobia limitata*, and it may be developed through the influence of low temperature upon the pupa shortly before the coloration process of the wings had begun.

Finally one word may be said concerning the naming of in-

dividual forms or "sports." Unfortunately we meet quite often still with the old view that the naming of "aberrations, mutations," etc., is of no value. In opposition to this view I wish to say that we know a species only, if we are acquainted with *all* of its forms and their causes. In order to make all the forms known and to separate them from each other it is necessary to mark them in some way. Since, however, a designation of forms by letters or numbers cannot be carried out, we are obliged to give them names. Of course it is necessary only to characterize the extremes of each variation. Transition forms hardly need special names, or only in exceptional cases, as, for instance, for defining forms which develop at certain temperatures or for other definite causes.

The figures on Plate X are a little less than natural size and a shade too light.

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### The Species of *Nehalennia* (Odonata),

Including one from the eastern United States hitherto undescribed.

By PHILIP P. CALVERT, Ph.D.,  
University of Pennsylvania, Philadelphia, Pa.

The genus *Nehalennia* was established by de Selys in 1850 for the European *Agrion speciosum* Charp. In his synopsis of the legion *Agrion* in 1876 he included within *Nehalennia* the following seven species: *atrinuchalis* Selys (Shanghai), *speciosa* Charp. (Europe), *irene* Hagen (United States), *sophia* Selys, 1876 (Province of Minas, Brazil), *posita* Hagen (United States), *denticollis* Burm. (Mexico), and *lais* Selys (Mexico). In 1895 Morse described *N. gracilis* from Massachusetts. Calvert removed *denticollis* to *Ischnura* Charp. in 1898 and *lais* to *Anisagrion* Selys in 1902. In 1903 Needham transferred *posita* to *Ischnura*. Five described species thus remain in *Nehalennia*. References to the literature are given in the catalogues of Kirby and of Muttkowski. Dr. E. M. Walker has just published the differentials of the larvae of *N. irene* and *gracilis*.\*

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\*Can. Ent., XLV, p. 61, pl. I, figs. 1-3. June, 1913.

Some years previous to 1908 I had ascertained the presence of another species of this genus in the United States and had noted the principal characters distinguishing it from *irene*, *gracilis* and *speciosa*. On this basis, I included in my notes, furnished to the late Prof. John B. Smith in 1909, for the List of New Jersey Insects then in preparation, the record of one female from Malaga, N. J., June 27, 1908, by Mr. V. A. E. Daecke as *Nehalennia integricollis* Calv.\* My absence for a year in Costa Rica speedily followed and the publication of the description of *integricollis* was forgotten, so that the name has remained a *nomen nudum*. A recent inquiry by Mr. W. T. Davis as to the place of description has recalled the matter to my mind, hence the present paper.

The species of *Nehalennia* are summarized in the following synopsis: two of them, *atrinuchalis* Selys and *selysii* Kirby (Cat. Odon., 1890, p. 147, for *sophia* Selys 1876; nec *sophia* Selys 1840 = *speciosa* Charp., 1840), are known to me by descriptions only.

I. Hind margin of prothorax convex, entire or nearly so ♂ ♀. Superior appendages ♂ longer than inferiors.

Thoracic dorsum dull metallic green reaching laterad to beyond the humeral suture, with reddish humeral and antehumeral lines. Three antenodal cells. ♂ Abd. segs. 8 and 9 blue, 10 black dorsally, its hind margin broadly and shallowly concave; superior appendages subconical, a little recurved toward each other as if compressed. ♀ Abd. segs. 8 and 9 bronze dorsally. Abd. male 20-22, female 22; hind wing, male 13, female 16 mm. (From de Selys' description.)

*atrinuchalis* Thoracic dorsum metallic green to beyond the humeral suture which often has a short pale stripe on its upper and another on its lower end. Three antenodal cells. ♂ Abd. seg. 8 dark metallic blue or metallic green with a pale blue mid-dorsal spot on the posterior third to half and the sides inferiorly pale blue; 9 chiefly pale blue, a broad dark metallic green or metallic blue band each side in proximal two-thirds; 10 pale blue, its hind dorsal margin cleft in the middle, a short process directed upward and caudad on each side of the cleft, each process spinulose at tip, margin otherwise not spinulose; superior appendages increasing in thickness to the apex when seen

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\* Ann. Rep. N. J. State Museum 1909, p. 75. Trenton, N. J. 1910.

in profile view. ♀ Abd. segs. 8-10 colored similarly to those of the ♂ but the blue on the dorsum of 8 often reaching farther toward the base and the lateral band on 9 farther posteriorly. Abd. male 20-23, female 19-22; hind wing, male 13-14, female 14-15 mm. .... **speciosa**

Thoracic dorsum bronze black not reaching as far laterad as the humeral suture which bears a black line. Three antenodal cells. ♂ Abd. segs. 8-10 pale blue with a bronze bilobed dorsal band on 8 and a small median spot on 9; hind margin of 10 forming two slightly marked festoons each bearing 5-6 blackish teeth; superior appendages conical, furnished at the base with an internal branch. Abd. 24-25, hind wing 15-15.5 mm. ♀ unknown. (From de Selys' description.) .. **selysii**

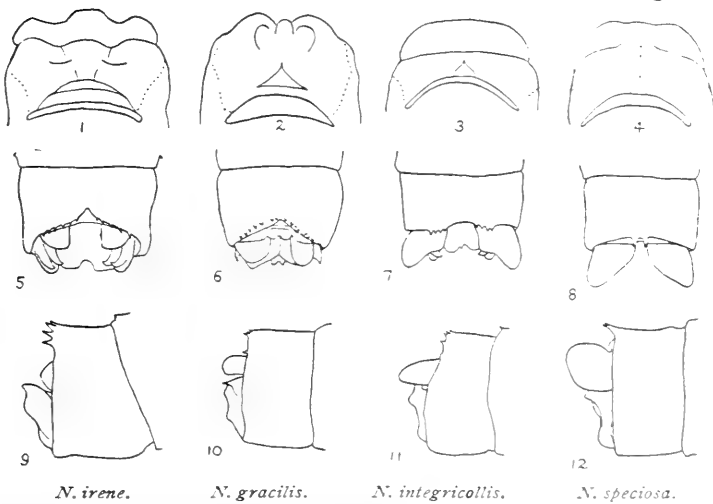
Thoracic dorsum ♂ bronze black reaching as far laterad as the humeral suture only at its upper sixth, the suture itself black, bordered mesad by a pale stripe one-fourth as wide as the mesepisternum on which it lies and reaching upward to five sixths of the length of the suture; of ♀ metallic green reaching laterad beyond the humeral suture which has a fine short yellow line on its upper and one on its lower end. Three (♂) or two (♀) antenodal cells. ♂ Abd. segs. 8 and 9 dark metallic blue, each with a narrow transverse pale line at base, interrupted at the middle on 8, and a narrower transverse pale line at the hind margin, sides pale blue which does not show in a dorsal view of 8 but is visible in a dorsal view of 9 especially near the hind end of the segment, no longitudinal lateral dark bands on 9; 10 pale blue with a little black at the base mid-dorsally, its hind dorsal margin concave in the middle, spinulose on each side of the emargination; superior appendages decreasing in thickness to the apex, seen in profile view. ♀ Abd. segs. 8 and 9 dark metallic blue-green, no pale dorsal spots on 8, a pale blue mid-dorsal posterior spot on 9 not half as long as the segment, sides inferiorly and 10 pale blue, the last with some traces of black or metallic green at the extreme base. Abd. ♂ 21, ♀ 18.5-20; hind wing, ♂ 13, ♀ 13-13.5 mm. .... **integricollis** n. sp.

II. Hind margin of prothorax emarginated ♀, entire and convex ♂. Superior appendages ♂ equal to, or shorter than, the inferiors. Hind dorsal margin of abd. seg. 10 of ♂ cleft in the middle, spinulose on each side of the cleft. Thoracic dorsum metallic green, reaching laterad to beyond the humeral suture which is often marked as above stated for *speciosa*. Three antenodal cells.

Hind margin of prothorax of ♀ bilobed, but in front of the cleft separating the two lobes is a small more nearly erect process



which partly fills the cleft when the prothorax is viewed from in front, a median pair of slender approximated mesothoracic processes just behind the prothorax. ♂ Abd. seg. 8 blue with a transverse dorsal basal black or metallic green line or narrow stripe, 9 and 10 entirely pale blue; superior appendages nearly as long but not as high as the inf. apps., seen in profile view. ♀ Abd. seg. 8 pale blue with a transverse basal stripe and a lateral band reaching caudad therefrom dark metallic green or black, or, the dorsum of 8 almost entirely blue-black, sides inferiorly pale (1 ♀), 9 blue with a triangular black band each side in proximal half of segment, 10 entirely blue. Abd. ♂ ♀ 20-22; hind wing ♂ 13-14.5, ♀ 14-15 mm. .... ***gracilis***



Figs. 1-4, hind part of prothorax of females viewed from in front and a little above, the head of each specimen having been removed to see the prothorax clearly; the dotted lines show the boundaries of the median metallic green and the lateral pale green or yellow. Figs. 5-8, dorsal views of abdominal segment 10 and appendages of males. Figs. 9-12, profile views, right side of the same. All the figures drawn to the same scale with the camera lucida, specimens illuminated by direct sunlight.

*N. irene*, ♀, Lehigh Gap, Pennsylvania, July 13, 1900; ♂, Berlin, New Jersey, July 17, 1893. *N. gracilis*, ♀, Lehigh Gap, Pa., June 29, 1897; ♂, Sherborn, Massachusetts, June 24, 1895 (co-type of Morse). *N. integricollis* n. sp., ♀, Enterprise, Fla., April 18, 1896 (type); ♂, Haulover, Fla., March. *N. speciosa*, ♀, ♂, Robenhausen, Switzerland, July 3, 1904.

Hind margin of prothorax of ♀ trilobed, no slender mesothoracic processes as described for *gracilis* but the mesostigmal laminae are larger and more projecting than in that species. ♂ Abd. seg. 8 dark metallic green, a mid-dorsal spot on the posterior fourth or less and the sides inferiorly pale blue, 9 pale blue with a triangular dark metallic green spot on each

side of dorsum in its proximal half or more, 10 pale blue with a metallic green spot each side of dorsum at base; superior appendages much smaller than the inferiors, each of the latter with two black-tipped hooks. ♀ Abd. segs. 8 and 9 dark metallic green, sides inferiorly pale, 9 with a mid-dorsal anteapical pale blue spot, *or*, more rarely, 8 and 9 colored as in the male, 10 as in the male. Abd. male 20-23, female 20-22.5; hind wing male 13-15.5, female 14-15 mm. .... **irene**

Of *Nehalennia integricollis* I have seen five females from Florida, one from Thomasville, Georgia, April 28, 1903, by Mr. Morgan Hebard, and the one from Malaga, New Jersey, mentioned above. Of the five Florida females, one, the type of the species, is from Enterprise, April 18, 1896, by Mr. Philip Laurent; it is the specimen cited in Ent. News, vii, p. 302, as *N. irene* Hag.; two others, exact locality not recorded, are due to Dr. D. M. Castle in 1903 (cf. Ent. News, xiv, p. 244); a fourth, "Fla. exchange," has long been unidentified in the collection of the Academy of Natural Sciences of Philadelphia, while the fifth, from Enterprise, May 17, belongs to the Museum of Comparative Zoology, Cambridge, Mass. Excepting this last, these females are in the collection of the Academy named.

The single male referred to this species, from Haulover, Florida, in March (Museum of Comp. Zool.), may not be conspecific with these females, as the extent of dark coloration on the thoracic dorsum and the number of antenodal cells are different, as has been indicated above. It resembles the description of *N. selysii* Kirby (*sophia* Selys 1876) in many respects, but is smaller, has the proximal and distal sides of the pterostigma nearly parallel (proximal side more oblique than the distal in *selysii*), the posterior or inferior side of the quadrilateral of front wing more than twice as long as the anterior or superior side ("l'inferieur moitié plus long que le supérieur" in *selysii*), labrum with a transverse basal black band ("un point médian enfoncé" in *selysii*), nasus entirely black. The abdomen is not fully colored, 3-6 being of a pale brown with a narrow transverse basal pale blue ring; other differences in abdominal coloring may be seen from the

above synopsis. The appendages may be quite similar to those of *selysii*. The known habitats of the two forms are far apart.

It will be noticed that, in spite of its geographical distribution, *integricollis* is nearer structurally to the European and Brazilian species than to the two already known from the United States.

Dr. F. Ris, within recent years, has described\* color varieties in Swiss specimens of *N. speciosa* which may possibly indicate a color dimorphism or polymorphism among the females analogous to that known in *Ischnura*. In this connection it is of interest to note that I found a single female of *N. irene* from Manchester, Maine, June 12, 1899, by Miss Mattie Wadsworth (now in the collection of Mr. E. B. Williamson†), which has abdominal segments 8 and 9 colored as in the male of *irene* and unlike the majority of females as stated above. The alternative coloring of segment 8 in the female of *gracilis* mentioned above is seen in one specimen from Iona, New Jersey, July 13, 1902 (Daecke).

The transference of species from *Nehalennia* to *Ischnura*, mentioned in the first paragraph of this paper, indicates the difficulty of sharply distinguishing these two groups. Even now it does not appear to be possible to give any one character which will invariably separate them. The following statement may be of assistance:

*Nehalennia*. Prevailing color of dorsum metallic green. Second joint of antenna black, its middle third pale. Pale color on postero-superior part of head forming a transverse line whose extremities are not enlarged (except in ? *integricollis* male). M2 on the hind wings separating from M1 more often nearest the fourth postnodal. Males without an elevated, bifid, dorsal process on abdominal segment 10 (ap-

\* *Farbenvarietäten der Agrionide Nehalennia speciosa* Charp. Mitt. schweiz. entom. Gesell. XI, pp. 159-165, 1906. Very recently this species has also been discovered in Asia by Bartenev, Zool. Anz. xxxv, p. 278, 1910; Ann. Mus. Zool. Acad. Imp. Sci. St. Petersburg. xvi, p. 447, 1912.

† Mr. Williamson kindly placed his collection of *Nehalennia* at my disposal for study.

proach thereto in *speciosa*), stigmata of front and hind wings similar in size, shape and color. Females without a vulvar spine.

*Ischnura*. Prevailing color of dorsum not metallic green. Second joint of antenna otherwise colored. Pale color on postero-superior part of head forming two round or cuneiform postocular spots sometimes united by a transverse line. M<sub>2</sub> on the hind wings separating from M<sub>1</sub> more often nearest the third postnodal (except in *I. erratica*, *I. cervula*, *I. inarmata* and possibly others). Males with an elevated, usually bifid, dorsal process on abdominal segment 10, stigmata of front and hind wings dissimilar in color, size or both (dissimilarity slight in *I. posita*). Females with or without a vulvar spine, in some cases even in the same species.

### A new Erycinid from South America (Lepid.).

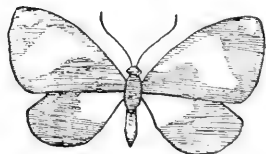
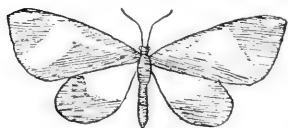
By LEVI W. MENGEL, Reading, Pa.

#### *Chamaelimnas propinquus* n. sp.

Expanse of spread insect, 1.38 in. *Male* (Fig. 1), upperside. Anterior wings, black. A broad orange band crosses the wing transversely, extending from the middle of the costa almost to the inner angle, cutting into the lowest median nervule. The band does not quite reach the costa. A sharp, triangular tooth-like projection of orange reaches from the transverse band, partially filling the space between the second and third subcostal nervules, extending entirely to the base of the wing, where the angle is quite acute. There is an iridescent steel-blue spot at the apex of the wing.

Posterior wing has the basal half steel blue; the outer half, black.

The *female* (Fig. 2) is much the same, except that the orange band is very much broader and the triangular projection extends to the base along the costa and completely fills the space to the fourth subcostal nervule. The iridescent spot in the apex is smaller and duller. The lower wing is the same as in the male.



Undersides of *both sexes*, the same as the upper side, but the orange band is duller, approaching yellow in color. Antennae, head, thorax, abdomen, and legs, black.

That the species is variable is shown by Fig. 3, where the orange, tooth-like projection does not pass quite to the base.

*Habitat*.—Neiva, U. S. Colombia.

*Types*.—Collection Mengel.

The species is close to *C. splendens* Grose-Smith, and may be the same, but the tooth of the orange band is very short in comparison with the species under discussion.

## Descriptions of two new Species of the Dipterous Genera *Chaetopsis* and *Stenomyia*, with notes on other species.

By E. T. CRESSON, JR., Academy of Natural Sciences of  
Philadelphia.

In working over some material for determination, two new species of *Stenomyia* were found and notes made of some species of *Chaetopsis* which may prove of interest to my colleagues.

The table given by Mr. C. W. Johnson, in his "Insects of Florida," (1) of the species of the genus *Chaetopsis* is very good and, I understand, is based upon natural specimens, not upon descriptions. However, the characters given for the separation of *C. aenea* and *fulvifrons* are somewhat inconstant, but if used with propriety will prove quite satisfactory. I have, however, found that the females are quite constant in their differently shaped sixth abdominal segments which I here figure in outline. I also give my idea of the most important characters for the separation of these species as well as of their synonymy.

The species herein treated may be separated as follows:

1. Front with distinct series of converging bristles which are much stronger than the proclinate orbital hairs; apical angle of anal cell prolonged; face but little retreating with epistoma somewhat prominent. (*Chaetopsis*) . . . . . 2

(1) Bull. Am. Mus. Nat. Hist., xxxii, 83, 1913.

No distinct series of converging bristles, but all hairs and bristles subequal and proclinate; apical angle of anal cell with acute angle, but not prolonged; face distinctly retreating; epistoma not prominent. (**Stenomyia**) ..... 3

2. Wings with three fuscus bands including that of apex; legs yellow  
**aenea** Wied. and **fulvifrons** Mcq

For other species see Johnson's table.

3. Wings with base, apical half and cross band over stigma fuscous  
**fasciapennis**

Wings hyaline with only an apical, no stigmal spot .....

**nasoni**

Wings with a stigmal and an apical band (See Johnson's table No. 5)

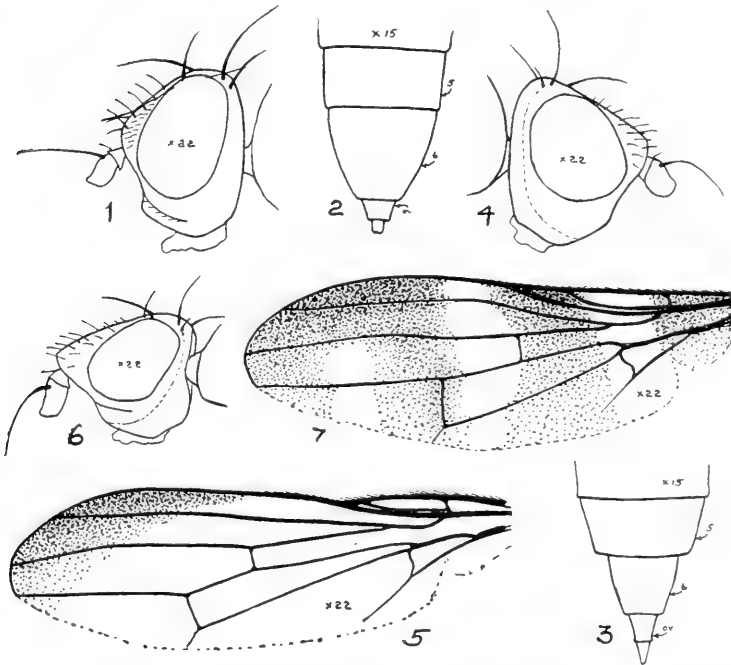


Fig. 1. *Chaetopsis aenea* Wied. Profile of head.  
 " 2. " " " Dorsum of fifth and sixth abdominal segments.  
 " 3. " *trifasciata* Say. Dorsum of fifth and sixth segments.  
 " 4. *Stenomyia nasoni*. Profile of head.  
 " 5. " " Wing.  
 " 6. " *fasciapennis*. Profile of head.  
 " 7. " " Wing.

**Chaetopsis aenea.**

1830, Wiedemann, Auss. Zw., ii, 462, (*Ortalis*).

1830 (August), Say, Jour. Acad. Nat. Sci. Phila., vi, 184, (*Ortalis trifasciata*).

Size ranging from 5.0-6.0 mm. The abdomen nearly black and contrasting with the metallic green of the thorax; legs rufous with the bases of femora sometimes darkened; frontal series of 4-6 bristles, with or without one or two median pairs of proclinate bristles above antennae. Wings with three brown bands which are generally as broad as, or broader than, their alternating hyaline spaces, the basal band dilating and attaining the inner margin more or less distinctly. The apical band generally always connected with the middle band along the costa and sometimes faintly along the inner margin. The flattened sixth segment of female abdomen as broad as, and nearly twice the length of, the fifth.

The synonymy of *Ortalis trifasciata* Say seems certain, although Osten Sacken in *Psyche* (2) accepts it only by reading Say's description in a certain way. In this he errs in thinking that Loew did not make his (Loew's) description and figure agree. Loew's description mentions the connection of the two apical bands along the costa while his figure shows only a clouding along the inner margin. No doubt Loew had this and the next species before him. Of course, there is some doubt as to whether this is Wiedemann's species, or, even Say's.

#### **Chaetopsis fulvifrons.**

1855, Macquart, *Dipt. Exot.*, Suppl. v, 125, pl. vii, f. 8, (*Urophora fulvifrons*).

1831, Say, *Desc. Ins. Louisiana*, 19, (*Trypeta trifasciata*) (3).

1867, v. d. Wulp, *Tidj. v. Ent.*, x, 157, pl. v, f. 12-14, (*Aciura aenea*).

Similar to, but smaller than, *aenea* (4-5 mm.), with the abdomen more concolorous with the thorax; frontal bristles 2-4 without the median pair. Wings similar but all cross bands less intense and more evanescent towards inner margins, especially the basal band which is seldom noticeable beyond the fifth vein. Sixth abdominal segment of female much narrower and hardly longer than the fifth. The abdomen of male seems to be more pointed on account of the lateral margins being more revolute than those of *aenea*.

As the basal band of the wing is very much abbreviated in this species and sometimes the middle and apical bands are not, or seldom, connected along the costa, the above synonymy would seem to be correct. The name *trifasciata*

(2) *Psyche* viii, 308, 1899.

(3) See *Psyche* vii, 307, 1899, for this description republished.

being already used in the genus as a synonym of *aenea* Wied. the same had better not be used again here.

***Stenomyia fasciapennis* n. sp.**

Black, moderately shining with metallic steel color reflections. Rufous or yellow as follows: Front except ocellar region and vertical angles, sides of face, epistoma, cheeks, all opaque, antennae except fuscous apices, coxae, femora except below, extreme tips of tibiae, bases of tarsi, halteres, and veins of wings in hyaline areas. Wings fuscous with two complete hyaline bands as figured.

Robust. Head as high as long. Front as wide as eye, without differential frontal bristles, with numerous fine orbital hairs, in profile but little projecting beyond orbits. Face retreating, with scarcely any vibrissal angles. Cheeks .25 eye-height. Third antennal joint hardly longer than second and nearly as broad, with an apical angle of about 90 degrees. Chaetotaxy normal. Thorax and abdomen only slightly elongate, the latter not overreaching the wings. Wings with anal cell as figured. Length 4.0 mm.

Described from two males bearing a state label "Minn." without any other data. Holotype No. 6016 in the American Entomological Society collection.

These specimens were found in the collection under *debilis* Loew which they are certainly not. The species is a true *Stenomyia* and may be distinguished from its congeners by the wing design as well as being also much stouter.

*Stenomyia* Loew is considered by Dr. Hendel (4) as synonymous with *Chaetopsis* Lw. I cannot agree to this, for I find good characters of differentiation, supported by the new species here described which lead me to consider the genus valid, at least, recognizable, such as the absence of differentiated frontal bristles, the retreating face with no distinct vibrissal angles and the short anal cell. The genus seems to be more nearly related to *Eumetopiella* Hendel.

***Stenomyia nasoni* n. sp.**

Black, shining, metallic steel blue or greenish. Front opaque, dark rufous except at vertex, with whitish dust which becomes more intense along orbits. Sides of face and cheeks, also opaque and concolorous with front, with narrow orbits whitish; median part to epistoma shining steel blue. Antennae black, with whitish spot at apex of second.

(4) Wien. Ent. Zeit., xxviii, 254, 1909.



Halteres white. Apical segment of abdomen not metallic colored. Legs black, shining, steel blue tinged, with fore tarsi black, middle and hind tarsi yellow. Wings hyaline with fuscous marking as figured.

Elongate. Head longer than high. Front projecting forward, in profile, 0.5 horizontal diameter of eye beyond orbits, and overhanging root of antennae, as wide as eye; all frontal bristles hair-like. Face much retreating. Cheeks about as wide as third antennal joint. The latter twice as long as second. Thorax and abdomen elongate, the latter generally overreaching the wings. Anal cell short, as figured. Length 5.0 mm. (excluding ovipositor).

♂. Third antennal joint rectangular, rather sub-mucronate apically.

♀. Similar with third joint somewhat subconical and apical angle rather angular. Sixth abdominal segment twice as long as fifth and broader.

Described from 2 ♂, 1 ♀ from Algonquin, Illinois. Collected by Dr. Wm. A. Nason, June 28, 1908. Holotype and Allotype No. 6017 in the American Entomological collection.

This species resembles *tenuis* Lw. in its build except that the head is more elongate. Collectively it is more like *Eumetopiella rufipes* Lw. but may be readily separated by the submucronate antennae and the presence of well developed humeral and posterior dorsocentral bristles.

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## OBITUARY.

### Rev. Dr. Isaac F. Stidham.

The Rev. Dr. Isaac Ferdinand Stidham, pastor of Falls of Schuylkill Baptist Church, Philadelphia, died June 9, 1913, in the parsonage adjoining the church, Queen lane above Ridge Avenue, Falls of Schuylkill.

Doctor Stidham was the son of Jonas and Anna Stidham, and was born November 26, 1837, in Baltimore. His father was a well-to-do farmer. After receiving an education in the public schools, Doctor Stidham entered Baltimore College, from which he was graduated in 1860. He then spent three years teaching in the college as professor of theology, and was ordained to the Baptist ministry in 1863.

His first charge was at the Falls of Schuylkill Church, where he began his labors March 1, 1868. In 1872, owing to impaired health and the advice of his physicians, he resigned,

to accept a call to the pastorate of the Baptist Temple, in Columbus, Ohio, where he spent twelve years.

While in Ohio he was given the degree of doctor of philosophy by Denison University, and the degree of doctor of laws by Columbus College. He subsequently spent twelve years as pastor of the First Baptist Church of New Britain, Connecticut. In the fall of 1897 he accepted a call to return to Falls of Schuylkill Church, and entered upon what proved his first and last field of labor, January 1, 1898.

Doctor Stidham was secretary-treasurer of the Philadelphia Baptist Ministers Conference, which recently elected him honorary secretary for life. He was widely known in the Masonic fraternity in which he was a thirty-second degree Mason. He was a member of Mary Commandery No. 36, Knights Templar.

In 1864 he was married to Miss Nannie Dutton, of Baltimore, who, with a son, Ferdinand Stidham, of Boston, and three daughters, Mrs. M. D. Stanley, of New Britain, Conn.; Mrs. Leonard Ritter, of West Philadelphia; Miss Edna Stidham; and four grandchildren survive.—*The North American* (Philadelphia), June 10, 1913.

Dr. Stidham was an enthusiastic amateur lepidopterist, and had a collection of exotic and domestic species. He was the discoverer of a new species of *Plagodis* which was taken at his home (Falls of Schuylkill), and named *schuylkillensis* by Mr. J. A. Grossbeck.—H. S.

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#### Grasshopper Army Moving Eastward (Orthop.)

Roswell, N. M., June 3.—The column of grasshoppers which invaded Elida, a town in northeastern New Mexico, last week, has moved east and is continuing in a northeasterly direction, according to advices received here today. The pest destroyed most of the small gardens and lawns in Elida. The column is about 18 miles in width. Its progress is slow, the grasshoppers not having developed wings.

Sacramento, Cal., June 3.—From San Diego County, in the south, to Shasta, in the north, various sections of California are in the "grip of the grasshopper," and unless an extensive campaign of extermination is prosecuted by farmers and fruit growers heavy damage to some crops may result. This warning was given out today by State Horticulturist A. J. Cook after the receipt of reports of wide-spread attacks by the pests.—*The Public Ledger* (Philadelphia).

## Fragments on North American Insects—V.

By A. A. GIRAULT, Nelson (Cairns), North Queensland,  
Australia.

### 1. Hatching of a Mantid (Orthop.).

During the last day of January, 1904, I found several egg-cases of a mantid on a shrub in the suburbs of Houston, Texas. When the eggs hatched the young nymphs were still within the envelope and resembled, then, small pupae. The nymph leaves the egg head first, issuing in this case from a canal-like, prolonged end of the ootheca, and then lies quietly upon the side of the latter. Soon the envelope parts along the dorsum and is drawn over the head and then worked back from over the body by squirming movements, first the antennae and then the legs becoming free. When the last pair of legs are freed, the envelope then free from all of the body with the exception of the last two or three abdominal segments, the nymph turns over upon its back and pushes the latter off with the caudal tarsi. The hatching and casting of the envelope occupies about five minutes. When entirely free the nymph lies inert for about another minute and then suddenly darts up and away.

A case observed at 10 A. M., May 29, 1904, is worth recording. The pronymph was first observed lying upon its side upon the egg case. It then resembled a free pupa, the appendages extended along the sides, the tarsi projecting at right angles. The body was gently squirming until after a short while the envelope parted along the thorax and was with difficulty worked over the head; afterward it was very quickly, almost imperceptibly, slipped off the body like a glove from the finger. When the legs had been freed and the envelope adhering only to the last two abdominal segments, the nymph turned over upon its back, propped up by the knees of the first and second pairs of legs and, somewhat figuratively, kicked the enveloping integument off (not unlike the position of a man lying on his back propped up by the elbows and kicking with the

feet). The nymph simply pushed the envelope off with the posterior legs, squirming the body in the meanwhile and afterward giving a few active kicks with the legs. Shortly afterward, still lying, but in motion, the nymph suddenly gained its feet and quickly darted away. This ecdysis occupied only about four minutes. The nymph had become normally colored after two hours. It lived only a week in confinement without food.

This mantid was not any of the common species of the United States. The egg cases were rectangular, with the outer, upper end prolonged like a tuft. They were ochreous in color, with a median dark ridge; the lower end clasped the twig. They were about 19 mm. long and resembled somewhat the larvae of flannel moths.

#### 2. *Adontea spinuloides*, var. *leucosigma* (Lep.).

One caterpillar of this species was obtained May 15, 1902, from apple at Blacksburg, Virginia. It was then about two-thirds of an inch long. After two molts it was an inch long and had the general appearance of a larva of *Hemerocampa*. On June 21 the larva commenced to construct a mat of silk upon which it again molted; on June 28, the same operations were repeated, the molt occurring on the afternoon of July 1. On July 15 feeding had practically ceased and on the following day a cocoon was commenced by fastening together several leaves. The cocoon was lined with the clothing of the caterpillar's body. The moth emerged on August 3, 1902, or after a pupal stage of about sixteen days. The chrysalis is stout, shining brown with tinges of reddish and along the dorsal aspect hairy, this pubescence being sandy in color and pilose. By way of markings, the chrysalis bears near the base of the abdomen dorsad two transverse rows of small masses of scalelike bodies arranged in three areas in each row. The cremaster ends in a peculiarly rugged knotlike process. The identification was made from the moth by Mr. Herman J. Erb, of New York City.

# ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

TO CONTRIBUTORS.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, four weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form and without covers, will be given free, when they are wanted; if more than twenty-five copies are desired, this should be stated on the MS. The receipt of all papers will be acknowledged. Proof will be sent to authors for correction only when specially requested.—Ed.

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PHILADELPHIA, PA., JULY, 1913.

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Entomology is a subject of vast and ever-increasing importance as the discoveries, made every year, of the influence of insects on human life, health, food, shelter and other possessions abundantly prove. Yet it is still unappreciated in many quarters, where, to apply Huxley's quotation from Dante, it is

put on cross so much,  
Even by those who ought to give her praise,  
Giving her wrongly ill repute and blame.

Those who still regard the study of insects as unworthy of human endeavor, or as indicative of a low degree of intelligence, we can triumphantly refer to the career of Sir John Lubbock, Lord Avebury, briefly sketched on another page of this issue. That many-sided man, "banker, humanitarian, man of letters, legislator, pre-eminent natural historian, did many things well," and could most fitly have borne the motto which Thomas Say adopted from Harris: "As there is no part of nature too mean for the Divine Presence, so there is no kind of subject having its foundation in nature that is below the dignity of a philosophical inquiry." If a Lubbock could devote a large part of his "patience and spirits of wine" to the investigation of a minute spring-tail, or concern himself with the behavior of an ant, no man with but a fraction of *his* genius or of *his* achievements can be justified in regarding an entomologist with contempt.

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N. B.—No numbers of the News are issued for August or September.

## Notes and News.

### ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

#### *Limenitis ursula* var. *albofasciata* Newcomb (Lepid.).

This variety was described and figured in *Psyche* 14, 90, pl. 2, figs. 7, 8, 1907. Mr. Newcomb claims this white-banded form is not a hybrid between *ursula* and *arthemis*, as it occurs where *arthemis* is unknown. He gives the following localities—Staten Island, Long Island, in New York; Jersey City, New Jersey; Boston, Malden and Wollaston, in Massachusetts. A large and handsome female of the variety has been captured at Chestnut Hill, Philadelphia, by E. M. Cheston. *Arthemis* has not been captured anywhere near Philadelphia. The nearest place to Philadelphia where *arthemis* has been taken, so far as I am aware, is Shady Brook, near Lopez, Sullivan County, Pennsylvania, by Mr. Witmer Stone. I think Mr. Newcomb is correct in his conjecture, that this is not a hybrid. If a female of this form is captured it would be most interesting to know what the progeny would be like. The form must occur rarely, as the territory of its habitat has been assiduously collected over for many years.—HENRY SKINNER.

#### A Specific Character in the Genus *Trichogramma* (Hymenoptera).

In Australia I have found a native species of *Trichogramma* lacking the cephalic line of discal cilia in the posterior wing, its characteristic. In the Sandwich Islands occurs a native species with the three lines long and complete. Other species common to Europe and North America are characterized by the relative incompleteness of one or more of these three lines of ciliation. On November 26, 1912, I received from Russia a number of females of a species of the genus, all of which lack the cephalic and caudal of the three lines, the middle line complete. I have reason to think that the arrangement of these cilia is one of the specific characters in the genus and that although these specimens are otherwise like the subcosmopolitan *minutum* of Riley, they represent a distinct species. I have, perhaps, studied more species and more specimens of this genus than any other hymenopterologist and yet must confess that I am still more or less uncertain in regard to whether this species is distinct. But since the evidence so far collected goes far to show that the minute differences noted above are real and of specific value, I cannot see any other way out than to consider the Russian specimens as a distinct species and the same as the species (*Pentarthron fasciatum*) recently described by Perkins from Mexico, reared from the eggs of *Diatraea saccharalis*. They agree with Perkins' description except that most of the specimens are immaculate, a few with a rather narrow dusky band across the base of the abdomen and the distal fifth of the same

region dusky. The oblique line of the fore wing (from stigmal vein, caudo-proximad) was incomplete, consisting of from 3-6 cilia, usually 5; the long single line of discal cilia of the posterior wing was cephalic, distad approaching the costal margin of the wing which was usually acuminate.

Thus, there is scarcely a species in the genus having the arrangement of these ciliated lines alike, while some of the species differ from others only in differences in their arrangement. On the other hand, coloration is very variable, even within the same generation of bred material. As a matter of record, I should state that the above specimens were received from the Poltava Agricultural Experiment Station.—A. A. GIRAULT, Nelson (Cairns), North Queensland, Australia.

**Everes amyntula and comyntas (Lepid.).**

Absolute characters! A hard thing. Methinks Dr. Skinner knew what he was asking for when he penned those two words.\*

With two species as close as these species, that are evidently in the process of mutation, it is quite impossible to give absolute characters, but I think I can give general characters whereby the great majority of specimens could be easily identified; for ease of reference I will tabulate them in parallel columns.

<i>Amyntula.</i>	<i>Comyntas.</i>
Size: Larger, generally much larger.	Size, decidedly smaller. I have never seen a specimen as large as the average <i>amyntula</i> .
Shape: Wings decidedly broader, apex cauter, termen nearly straight.	Shape: Wings narrower, apex rounded, termen well arched.
Terminal border linear, generally finely linear, blackish.	Terminal border broadly blackish brown, often very broad.
Underside.	
Color whitish with a marked white hoary appearance.	Color decidedly grayer.
Spots in primaries are short dashes, rarely encircled, marginal rows obsolete.	Spots are distinct ocellated spots, marginal rows distinct.
Spots in secondaries very largely obsolete, ocellation scarcely ever visible.	Spots in secondaries, obsoletion very rare, ocellation distinct.

These are, of course, general characters, but they will certainly apply in the great majority of specimens. Dr. Skinner says that some points I got second hand. I think I stated that in my paper and thanked my friends for their kind aid, and now I am glad to heartily thank Dr.

\*Ent. News, May, 1913, p. 230.

Skinner himself (whose personal acquaintance I had the pleasure of making at the Oxford International Congress last August) for clearing up a point that I had been entirely unable to trace on this side, viz.: the synonymy of *Lycaena tigua* Reakirt and *monica* Reakirt. I had quite come to the conclusion from a study of the description only that they had nothing to do with the genus *Everes*, but probably belonged to what we now call the Lampididae; Dr. Skinner has settled the point and has put on record that the types are known and are available for inspection, and that *Lycaena tigua* Reakirt is a synonym of *Catochrysoys strabo* whilst *Lycaena monica* is a synonym of *Euchrysoys cnejus*. This is an elucidation unknown, I believe, on this side the water, and I am glad to know it. It is by bringing forward these little points, as Dr. Skinner has done, that we move a step forward.

G. T. BETHUNE-BAKER.

#### Members of the International Commission of Zoological Nomenclature.

For the information of our readers we give a list of the members of the International Commission of Zoological Nomenclature of the International Zoological Congress, as communicated by Dr. Stiles.

Class	Name	Address.
1922—	Allen, Dr. J. A.,	Amer. Museum of Natural History, 77th St., New York.
1919—	Apstein, Prof. C.,	Zool. Mus. Invalidenstr, 43 Berlin, N. 4.
1922—	Bather, Dr. F. A.,	Brit. Mus. Natural Hist., Cromwell Road, London, England.
1919—	Blanchard, Prof. R.,	Pres. Ecole de medicine, Paris, France.
1922—	Dautzenberg, Ph.,	213 rue de Universite, Paris, France.
1916—	Hartert, Dr. Ernst,	Museum, Tring, England.
1919—	Horvath, Prof. Geza,	Mus. Nat. hongrois, Budapest, Austro- Hung.
1922—	Hoyle, Dr. Wm. Evans,	National Museum, Cardiff, Wales.
1916—	Jentink, Dr. F. A.,	Museum, Leiden, Holland.
1916—	Jordan, Pres. David S.,	Stanford Univ., Palo Alto, Cal., U. S. A.
1922—	Jordan, Dr. K.,	Tring, England.
1922—	Kolbe, Prof. H. J.,	Zool. Mus. Invalidenstr 43, Berlin, N. 4.
1916—	Monticello, Prof. F. S.,	Inst. Zool. R. Univ. Napoli, Italy.
1919—	Roule, Prof. Louis,	Museum Nat. Hist., Paris, France.
1916—	Schulze, Gehm. Prof. Dr. F. E.,	Zool. Mus. Inval., 43 Berlin, N. 4.
1916—	Skinner, Dr. Henry,	Philadelphia, Pa. (Acad. Nat. Sciences).
1916—	Stejneger, Dr. L.,	Nat. Mus., Washington, D. C., U. S. A.
1919—	Stiles, Prof. C. W.,	Secretary. Permanent, Hygienic Laboratory, 25th & E. Sts., N. W., Washington, D. C.; Temporary, U. S. Marine Hospital, Wilmington, N. C., U. S. A. (1913-1914).



## Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published, and are all dated the current year unless otherwise noted, always excepting those appearing in the January and February issues, which are generally dated the year previous.

All continued papers, with few exceptions, are recorded only at their first installments.

The records of systematic papers are all grouped at the end of each Order of which they treat, and are separated from the rest by a dash.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington.

- 1—Proceedings, Academy of Natural Sciences of Philadelphia.  
 4—The Canadian Entomologist. 5—Psyche. 7—U. S. Department of Agriculture, Bureau of Entomology, Washington. 9—The Entomologist, London. 11—Annals and Magazine of Natural History, London. 14—Proceedings of the Zoological Society of London. 22—Zoologischer Anzeiger, Leipzig. 50—Proceedings of the U. S. National Museum. 60—Anales, Museo Nacional de Buenos Aires. 89—Zoologische Jahrbucher, Jena. 92—Zeitschrift fur wissenschaftliche Insektenbiologie. 97—Zeitschrift fur wissenschaftliche Zoologie, Leipzig. 123—Bulletin, Wisconsin Natural History Society, Milwaukee. 166—Internationale Entomologische Zeitschrift, Guben. 173—Die Grossschmetterlinge der Erde, Fauna Americana, von A. Seitz, Stuttgart. 175—Aus der Natur, Berlin. 176—Archiv fur entwicklungsmechanik der Organismen, Leipzig. 179—Journal of Economic Entomology. 181—Guide to Nature, Sound Beach, Conn. 184—Journal of Experimental Zoology, Philadelphia. 193—Entomologische Blatter, Cassel. 195—Bulletin, Museum of Comparative Zoology at Harvard College, Cambridge, Mass. 196—Arkiv for Zoologie, Stockholm. 216—Entomologische Zeitschrift, Frankfurt a. M. 242—Transactions, Royal Society of Canada, 3d Series, Ottawa. 275—Philippine Journal of Science, Manila. 279—Jenaische Zeitschrift fur Naturwissenschaft. 281—Annals of Tropical Medicine and Parasitology, University of Liverpool, Series T. M. 284—Bulletin, Museum National d'Histoire Naturelle, Reunion Mensuelle des Naturalistes du Museum, Paris. 291—Proceedings of the Staten Island Association of Arts and Sciences, Lancaster, Pa. 307—Annales, Societe Linneene de Lyon (n. ser.). 327—Scientific Memoirs by Officers of the Medical and

Sanitary Departments of the Government of India (New Series), Calcutta. **331**—Annual Report, Experimental Farms, Canada Department of Agriculture, Ottawa. **365**—Collections Zoologiques du Baron Edm. de Selys Longchamps, Bruxelles. **368**—The Monthly Bulletin of the State Commission of Horticulture, Sacramento, Cal. **369**—Entomologische Mitteilungen, Berlin-Dahlem. **373**—Contributions to the Natural History of the Lepidoptera of North America, by Wm. Barnes & J. H. McDunnough, Decatur, Ill. **408**—Dominion of Canada Department of Agriculture Experimental Farms, Division of Entomology, Ottawa. **420**—Insector Inscitiae Menstruus: A monthly journal of entomology, Washington, D. C. **422**—Coleopterologische Rundschau, Wien. **427**—Hawaii Board of Commissioners of Agriculture and Forestry, Honolulu. **429**—Sarawak Museum Journal, Singapore. **430**—Queensland Naturalist, Brisbane. **431**—Lotos, Naturwissenschaftliche Zeitschrift, Prague.

**GENERAL SUBJECT.** **Bretschneider, F.**—Der centralkörper und die pilzformigen körper im gehirn der insekten, **22**, xli, 560-69. **Britton, W. E.**—Recent studies on the weevil and the bud moth of the walnut and a sawfly attacking blackberry, **179**, vi, 197-99. **Dickerson, Leng & Grossbeck.**—The entomological work of John B. Smith, **291**, iv, 17-54. **Ehrhorn, E. M., et al.**—Report of the division of entomology for period ending 1912. **427**, Report 1912, 101-151. **Geyer, K.**—Untersuchungen ueber die chemische zusammensetzung der insektenhamolymphe und ihre bedeutung für usw., **97**, cv, 349-499. **Girault, A. A.**—Notes on the habits of a few insects: 1. Flies reacting to the odor of carbide. 2. Tettigids swimming. 3. Jealousy in pentatomids, **430**, i, 254-55. **Gross, A. O.**—The reactions of arthropods to monochromatic lights of equal intensities, **184**, xiv, 467-514. **Hewitt, C. G.**—The imperial bureau of entomology, **179**, vi, 274-76. Bibliography of Canadian entomology for 1911, **242**, vi, 115-127. Report of the dominion entomologist, Canada department of agriculture, **331**, 1911-12, 173-189. **Hunter, S. J.**—Apparatus for maintenance of thermal climatic conditions, **179**, vi, 196-97. **Krizenecky, J.**—Ueber die homö- und doppelbildungen bei arthropoden, **22**, xlii, 20-28. **Martini, W.**—Kleinschmetterlinge an langen nadeln oder tragen, **216**, xxvii, 22-23. **Mayer, T. F. G.**—A new mosquito-proof and storm-proof house for the tropics, **281**, vii, 41-44. **Morgan & Runner.**—Some experiments with Roentgen rays upon the cigarette beetle (*Lasioderma serricorne*), **179**, vi, 226-230. **Morrill, A. W.**—Entomological pioneering in Arizona, **179**, vi, 185-195. **Murtfeldt, Mary E.**—Obituary notice, **4**, 1913, 157; **179**, vi, 288-289. **Nolan, E. J.**—An index to the scientific contents of the journal and proceedings of

the Academy of Natural Sciences of Philadelphia, 1817-1910 (May be procured upon payment of \$3.50 to Edward J. Nolan, M.D.).  
**Poche, F.**—Ueber die zeit der einfuehrung der namen der von Latreille in seinen "Familles naturelles du Regne Omimal" neu unterschiedenen gattungen, **369**, ii, 144-45. **Reich, M.**—Beitrag zur quercifolia-zucht, **216**, xxvii, 25-26. **Rosenfeld & Barber.**—Peculiar effects of the sting of a wasp, **179**, vi, 225. **Townsend, C. H. T.**—The possible and probable etiology and transmission of verruga fever, **179**, vi, 211-225. **Urich, F. W.**—Notes on some Mexican sugar cane insects from Santa Lucrecia, State of Vera Cruz, **179**, vi, 247-49. **Van Dine, D. L.**—The insects affecting sugar cane in Porto Rico, **179**, vi, 251-57. **Van Horn, E.**—"The Insects' Homer." The inspiration of the example of Henri Fabre (Popular), **181**, v, 352-53. **Webster, R. L.**—The arrangement of material in an entomological bulletin, **179**, vi, 180-85. **Zambeu, C.**—Moeurs et metamorphoses des insectes: Coleopteres, **307**, lvi, 1-49, lix, 111-161.

**Cockerell, T. D. A.**—Some fossil insects from Florissant, Colo. **50**, xlv, 341-346.

**ARACHNIDA, ETC.** **Bishopp & King.**—Additional notes on the biology of the Rocky Mountain spotted-fever tick, **179**, vi, 200-211. **Parker, W. B.**—The red spider on hops in the Sacramento Valley of California, **7**, Bul. 117. **Pawlowsky.**—Ein beitrag zur morphologie der giftdrusen der skorpione, **97**, cv, 157-177. **Tragardh, I.**—Contributions towards the comparative morphology and phylogeny of the Parasitidae (Gamasidae), **196**, vii, No 28.

**Ellingsen, E.**—Note on some Pseudoscorpions in the British Museum, **11**, xi, 451-455. **Hogg, H. R.**—Some Falkland Island spiders, **14**, 1913, 37-50.

**APTERA AND NEUROPTERA.** **Cholodkovsky, N.**—Zur kenntnis des trichopteren- und lepidopterenhoden, **22**, xlii, 43-45. **Cummings, B. F.**—On some points in the anatomy of the mouthparts of the Mallophaga, **14**, 1913, 128-141. **Rosen, K. B. v.**—Studien am sehorgan der Termiten...., **89**, xxxv, 625-664.

**Banks, N.**—Neuropteroid insects collected on the Stanford expedition to Brazil, 1911, **5**, xx, 83-89. **Cockerell, T. D. A.**—The genus Phryganea in the Florissant shales, **5**, xx, 95-6. **Cockerell, T. D. A.**—(See under General.) **Muttkowski, R. A.**—New spp. of dragon flies, **123**, x, 164-70. **Navas, R. P. L.**—Neuropteres nouveaux de l'Amerique du Nord, **216**, xxvii, 19-20. **Newmann, L. G.**—Sur le genre "Laemobothrion" Nitzsch, **284**, 1912, 339-42. **Ris.**—Libellulinen, 365, fasc. 15, 837-964. **Zacher, F.**—Bemerkungen zum "Psyllidaum Catalogus" von G. Aulmann, **369**, ii, 148-153.

**ORTHOPTERA.** Barber, M. A.—The susceptibility of cockroaches to plague bacilli inoculated into the body cavity, 275, Sec. B., vii, 521-24. Cholodkovsky, N.—Ueber die spermatodosen der locustiden, 22, xli, 615-19. Janda, V.—Fuhlerahnliche heteromorphosen an stelle von augen bei "Stylopyga orientalis" und "Tenebrio molitor," 176, 1913, 1-3. Parrott & Fulton.—Notes on tree crickets, 179, vi, 177-180.

Borelli, A.—Dermapteres nouveaux ou peu connus du Museum de Paris, 284, 1912, 221-240. Cockerell, T. D. A.—(See under General.) Rehn, J. A. G.—Descriptions and records of So. Am. O., with the description of a n. subsp. from Clarion Id., 1, 1913, 82-113.

**HEMIPTERA.** Haseman, L.—Peach "stop back" and tarnished plant bug (*Lygus pratensis*). The apple leaf-hopper (*Empoasca mali*), 179, vi, 237-243. Heidemann, O.—The sugar-cane tingid from Mexico (*Monanthia tabida*), 179, vi, 249-51. Parker, W. B.—The hop *Aphis* in the pacific region, 7, Bul. 111. Wagner, W.—Ueber die biologie von "*Conomelus limbatus*," 92, ix, 120-22. Wilsie, W. E.—The date palm scales and their control, 368, ii, 538-39.

Bergroth, E.—The habitat of "*Rhogas indicus*," 4, 1913, 134. Brethes, J.—Descripcion de un n. gen. y especie de Cochinilla de la Rep. Argentina, 60, xxiii, 279-81. Townsend, C. H. T.—(See under Diptera.)

**LEPIDOPTERA.** Biddle, E.—"Hybernation" of *Pyrameis atalanta*, 9, 1913, 171. Burgess, A. F.—Remarks on gipsy moth, 179, vi, 258-59. Cholodkovsky, N.—(See under Neuroptera.) Dyar, H. G.—The larva of "*Trichostibas parvula*" and "*Xanthopastis timais*," 420, i, 48-50. Frohawk, F. W.—The life-history of "*Coenonympha tiphon*," 9, 1913, 145-48. Jones, T. H.—Some notes on "*Laphygma frugiperda*" in Porto Rico, 179, vi, 230-36. Linstow, Dr.—Animalische nahrung der raupen, 166, vii, 27-28. Muller-Rutz, J.—Entomologische praxis in hinsicht der microlepidoptera, 216, xxvii, 27-29. Richter, V.—Zur morphologie einiger lepidoptereneier, 431, lx, 1-6, 251-253. Swaine, J. M.—Tent caterpillars, 408, Circ. 1. Townsend, C. H. T.—The 1912 outbreak of "*Alabama argillacea*" in Peru, 179, vi, 244-46. Venable, E. P.—A note on "*Grapta j-album*," 4, 1913, 157.

Barnes & McDunnough.—Illustrations of rare and typical L. The N. Am. sp. of the liparid gen. *Olene*. New N. Am. L. with notes on described sp., 373, ii, Nos. 1-3, 1-162. Cockerell, T. D. A.—(See under General.) Dyar, H. G.—The American sp. of "*Dysodia*," 420, i, 37-45. Fruhstorfer, H.—Brassicidae, Morphidae, 173, fasc. 41, 42. Seitz, A.—Castniidae, 173, fasc. 43.

**DIPTERA.** **Burrill, A. C.**—Economic and biologic notes on the giant midge (*Chironomus plumosus*), **123**, x, 124-163. **Cragg, F. W.**—Studies on the mouth parts and sucking apparatus of the blood-sucking D., **327**, Nos. 58, 59. **Graenicher, S.**—Records of Wisconsin D., **123**, x, 171-185. **Lahille, F.**—Sobre un Anopheles, una Stegomyia y la notacion de las nervaduras alares de los mosquitos, **60**, xxiii, 253-264. **Mitzmain, M. B.**—The role of "*Stomoxys calcitrans*" in the transmission of "*Trypanosoma evansi*," **275**, Sec. B., vii, 475-520. **Wallis, J. B.**—(See under Coleoptera.)

**Alexander, C. P.**—A synopsis of part of the neotropical crane-flies of the subfamily Limnobiinae, **50**, xlv, 481-549. **Brues, C. T.**—A n. sp. of Phoridae from New England, **5**, xx, 90-91. **Christophers, S. R.**—Contributions to the study of color marking and other variable characters of Anophelinae...., **281**, vii, 45-100. **Cockerell, T. D. A.**—A new gall on *Peritoma serrulatum*, **179**, vi, 279-80. **Felt, E. P.**—"*Itonida anthici*," n. sp., **179**, vi, 278-79. **Gahan, A. B.**—(See under Hymenoptera). **Malloch, J. R.**—Notes on some American D. of the genus *Fannia*, with descriptions of n. sp., **50**, xlv, 621-631. A n. gen. and 2 n. sp. of Chloropidae, **420**, i, 46-48. **Melander, A. L.**—A synopsis of the Sapromyzidae, **5**, xx, 57-82. **Surcouf, J.**—Note synoptique sur un D. de la collection de Macquart, **284**, 1912, 146. **Townsend, C. H. T.**—Muscoïd parasites of the cotton-stainer and other Lygaeids, **5**, xx, 91-94.

**COLEOPTERA.** **Blunck, H.**—Kleine beitrage zur kenntnis des geschlechtslebens und der metamorphose der Dytisciden, **22**, xli, 534-546 (cont.). **Davis, J. J.**—The life cycle of "*Lachnosterna tristis*," **179**, vi, 276-78. **Gahan, C. J.**—On some singular larval forms of beetles to be found in Borneo, **429**, i, 61-65. **Janda, V.**—(See under Orthoptera). **Kemner, A.**—Beitrage zur kenntnis einiger schwedischen koleopterenlarven, **196**, vii, No. 31. **Klein, R.**—Biologische beobachtungen an *Chrysomela fastuosa*, **193**, 1913, 122-128 (cont.). **Maskew, F.**—Sweet potato weevil (*Cylas formicarius*), **368**, ii, 535-37. **Reum, W.**—Wie ich Meloe präpariere, **422**, ii, 81-82. **Rosch, P.**—Beitrage zur kenntnis der entwicklungsgeschichte der Strepsiptera, **279**, I, 97-146. **Scholz, M. F. R.**—Der schnellapparat der elateriden (schnellkafer oder schmiede), **175**, ix, 526-29. **Wallis, J. B.**—Robber-fly and tiger-beetle, **4**, 1913, 135. **Weiss, H. B.**—Notes on the death feint of "*Calandra oryzae*," **4**, 1913, 135-37. **Wintersteiner, F.**—Environment of Hydrophilidae (not Hydrophidae). Jour. N. Y. Ent. Soc. xxi, 54-55.

**Arrow, G. J.**—Some n. sp. of lamellicorn beetles from Brazil, **11**, xi, 456-466. **Bruch, C.**—"*Oxycorynus helleri*" un nuevos gor-

gojo argentino, **60**, xxiii, 265-67. **Kerremans, C.**—Monographie des Buprestides, vi, liv. 7-9, pp. 193-288. **Lesne, M. P.**—Notes sur les C. Tereidiles, **284**, 1912, 404-409. **Sicard, Dr.**—Descriptions de Coccinellides de la collection du Museum de Paris provenant des chasses a Cochabamba (Bolivie), **284**, 1912, 303-311.

**HYMENOPTERA.** **Braue, A.**—Die pollensammelapparate der beinsammelnden bienen, **279**, 1, 1-96. **Brauns, H.**—Biologie sudafrikanischer Apiden, **92**, ix, 116-120 (cont.). **Fawcett, H. S.**—Fungus gardens cultivated by ants, **368**, ii, 539-40. **Rosenfeld & Barber.** (See under General.)

**Cockerell, T. D. A.**—(See under General.) **Crawford, J. C.**—Notes on some sp. of the gen. "Prosopis," **4**, 1913, 154-56. **Gahan, A. B.**—New Ichneumonoidea parasitic on leaf-mining diptera, **4**, 1913, 145-154. **Wheeler, W. M.**—The ants of Cuba, **195**, liv, 477-505. **Viereck, H. L.**—Descriptions of 6 n. gen. and 12 n. sp. of ichneumon flies, **50**, xlv, 639-648.

MIMIKRY UND VERWANDTE ERSCHEINUNGEN VON DR. ARNOLD JACOBI, Direktor des Königl. Zoologischen Museums in Dresden. Braunschweig, Friedr. Vieweg & Sohn. 1913. 12mo. pp. ix, 215. 31 text figures, some colored. In paper covers 8 Marks, in linen binding 8 M. 50 pf.

This is volume 47 of "Die Wissenschaft," a series of small monographs in natural science and technology, issued by the publishers named. Its plan is thus stated in the preface: "The subject of mimicry has the greater claim to be represented in this collection because neither German nor foreign literature possesses a comprehensive and critical treatment of it corresponding to our present knowledge. Whoever seeks information in this direction must go either to the older books or to newer ones which have hardly been based on original sources and supply no literary references. I have been concerned to work over all the writings of any importance for mimicry, in the sense in which I have accepted it, and have attempted to offer these fruits of many years of often far-reaching study to the reader in such a form as will not only acquaint him with the main features of the great store of facts and their significance, but also furnish him with a basis for drawing his own conclusions. Space permits indeed only a very limited choice of material which is in no proportion to the abundance of that which has appeared, especially in English and which is difficult to arrange, yet I have tried to help him who wishes more by careful references to the sources of information, based almost always on personal and careful knowledge of them. . . . In the allotment of material I held it advisable to give more space to the less known topics, such as the mimicking of ants, because they appear to me more certain and more susceptible of direct proof than the deceiving mimi-

cry of the Lepidoptera which often rests on weak supports. My own attitude toward the latter is to be seen in the concluding section."

The author's starting points are the variation in colors of animals, the close relation between color and the conditions of life, all color variations not necessarily useful, but some kinds may be so (p. 3), and thus the contents of the book are grouped under the four headings of: I. Schutzfärbung (protective coloration), II. Schützende Aehnlichkeit (protecting resemblance), III. Warnfärbung (warning coloration) and IV. Mimikry oder schützende Nachäffung (mimicry or protecting mimicking). To these four chapters are devoted 7, 34, 17 and 141 pages respectively. "Schutzfärbung" is the assumption by an animal of the color only of its surroundings; "schützende Aehnlichkeit" involves both color and form of the environment. The looseness with which many writers have employed the term mimicry is justly condemned and the original meaning is emphasized as "the protecting resemblance to avoided animals of other animals dwelling in the same place." (p. 64).

After general consideration of mimicry in vertebrates, spiders and insects, special sections are devoted to "Sphecoidie," or mimicking of stinging Hymenoptera; "Myrmecoidie" or the mimicking of ants; the mimicking of beetles; mimicry among Lepidoptera; and the general characteristics of mimetic Lepidoptera.

The examples cited throughout the book, while not limited to insects, are largely drawn from that class. Although a four page bibliography is given at the conclusion of the text, many other references to papers of less importance appear in the footnotes all through the work. Various theories, as natural selection, orthogenesis, are considered in their explanations of color phenomena. The author will not accept the views of Weismann in their entirety, nor does he hesitate to criticise the exponents of both opposed schools of interpretation of the value of colors, such as Professor Poulton and Mynheer Piepers. He concludes that "the theory of protecting adaptations by color and form has probability" (p. 42), and inclines "to explain the theory of mimicry in relation to Lepidoptera as a disproved hypothesis, a great, although also scientifically highly fruitful, error of nature-investigation" (p. 199).

Dr. Jacobi's book seems to have achieved the object which he sets forth in his preface in an excellent and very useful way.—P. P. C. (*Advertisement*).

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We are requested to state that Mr. A. G. Scorsers' *Entomologists' Log-Book and Dictionary of the Life-Histories and Food Plants of the British Macro-Lepidoptera*, noticed in the NEWS for June, page 285, may be obtained in the United States from E. P. Dutton & Co., 681 Fifth Avenue, New York. (*Advertisement*).

## Doings of Societies.

### FELDMAN COLLECTING SOCIAL.

Meeting of March 19, 1913, at 1523 South Thirteenth Street, Philadelphia. Ten members present; Mr. H. L. Viereck, visitor. President Haimbach in the chair.

Mr. Viereck described the system now used in the U. S. National Museum for arranging the insect collection. Cork-lined trays of various sizes are used for each species, so that when rearranging takes place an entire species can be handled at one time instead of only one specimen as heretofore.

Mr. Wenzel, Sr., described the routine work of his collection and exhibited two boxes of Hydrophilids wonderfully mounted and arranged by Mr. Wenzel, Jr. This led to a general discussion on collections and collectors, mostly the latter. Adjourned to the annex.

Meeting of April 16, 1913, at 1523 South Thirteenth Street, Philadelphia, Pa. Twelve members present; Mr. H. L. Viereck, visitor. President Haimbach in the chair.

Mr. Wenzel exhibited two specimens of *Rhyacionia wenzeli* Kearf. (Lep.), bred April 15 and 16, 1913, from the pitch swellings made by these insects on Virginia pine, *Pinus virginianus* Miller, which had been found at Red Bank, New Jersey.

Mr. Daecke recorded a specimen of *Clerus ichneumonaeus* Fabr. (Col.) collected at Rockville, Pennsylvania, March 30, 1913, hibernating under bark, and said this was most likely an adult from last year.

Mr. Harbeck exhibited the species of *Exoprosopa* (Dip.) which are in the New Jersey list, and with them a specimen of this genus from Surf City, New Jersey, August 23, 1911, entirely different.

Mr. J. W. Green exhibited some walking sticks from Santa Marta, Colombia, collected by himself December 26, 1910. These were more peculiar looking than our local form and also have short antennae.

Mr. Geo. M. Greene exhibited a male of *Mutilla slossonae* Fox (Hym.) from Loggerhead Key, Dry Tortugas, Florida, July 8, 1912, from the Rehn and Hebard material. This is the second specimen known, the type being in the collection of the American Entomological Society.

Mr. Viereck said he had caught two Scolytids flying two weeks ago under a hemlock along the Wissahickon.

Adjourned to the annex. GEO. M. GREENE, Secretary.



## EXCHANGES.

Not Exceeding Three Lines Free to Subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued

**Exchange**—I desire to exchange Lepidoptera in papers with collectors in the Southern States, Central America, India and Japan.—Paul C. Squires, Clinton, N. Y.

**Wanted**—Entomologica Americana, Vol. III, No. 12. Will pay cash or give Lepidoptera in exchange. Have western species in papers and local species mounted to offer for other mounted Lepidoptera.—Alex. Kwiat, 2055 Pensacola Ave., Chicago.

**I have hundreds** of North American Lepidoptera of all families to exchange. Exchange lists asked for. Mine on application.—Joseph H. Reading, 1456 N. Rockwell St., Chicago, Ill.

**Specimens of *Thanaos lucilius*** desired. Also specimens of *Thanaos* from the south and west. Good exchange given. Will also name specimens.—Henry Skinner, Logan Square, Philadelphia.

**Wanted**—Living cocoons of *Tiphia inornata* and *Myzine sexcincta*. Will pay \$10.00 per hundred. Please correspond for details of shipping and quantity wanted, etc.—Experiment Station, Hawaiian Sugar Planter's Association, Honolulu, Hawaii.

**Wanted**—Tipulidae (Craneflies) from any part of the Globe, but especially of North America. Will buy for cash or give exchanges in Lepidoptera or Coleoptera.—Dr. W. G. Dietz, Hazleton, Pa.

**Wanted** for cash, no exchange, general entomological literature to 1830; all literature directly or indirectly on North American Coleoptera to date. European and American dealers send lists.—R. P. Dow, 15 Broad St., New York, U. S. A.

**I have** or will have for sale or exchange living eggs, larvae, cocoons and papered imagos of *Bombyx mori* (the silk moth), possibly other Lepidoptera.—S. L. Wright, Jr., Logan, Philadelphia, Pa.

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### Photographs of Entomologists Desired.

The Entomological Section of the Philadelphia Academy of Natural Sciences desires for its entomological album the photograph of every entomological student. The collection contains over 300 at this date. A list was published in the NEWS 1902, pages 45-47, of those in the album at that time. We hope that those who can do so will write their names and date of birth and the date when the photograph was taken on the back of each photo, along with any other information concerning themselves they may wish to impart.

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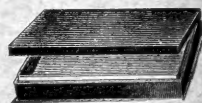
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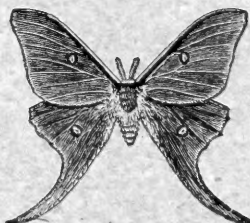
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